Attitudes and Perceptions of Participants in a Horticulture Study Abroad Course at Iowa State University

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SUMMARY. Globalization affects many aspects of American society, including higher education. Many institutions of higher education realize the need to help students become global citizens and thus require an international perspectives course as part of their undergraduate curriculum. The goal of this research was to evaluate the Horticulture Travel Course (Hort 496), which includes an international travel component, to determine whether it meets the university and College of Agriculture's expected learning outcomes and competencies in international and multicultural awareness. A 23-question survey instrument consisting of open- and close-ended questions was mailed to 116 former Hort 496 participants. Forty-three percent of the questionnaires were returned and were usable. Survey questions were designed to gather information on student demographics, previous international travel experience, learning outcomes achieved through participation in the pretrip preparatory class and the study abroad experience, and how these experiences influenced career development. Responses indicate that both the pretrip preparatory class and study abroad experience helped participants achieve the course learning outcomes. Furthermore, student presentations and guest speakers, and interacting with locals and planned tours immersed students the most in the pretrip preparatory class and study abroad experience, respectively. A majority of participants observed recognizable differences in agricultural management or production practices between the United States and the country visited. Participants also noted that Hort 496 had a positive affect on their communication skills, interpersonal skills, and personal growth.

The U.S. Senate has recognized the importance of study abroad programs and designated 2006 as the "Year of Study Abroad." The resolution states "... ensuring that the citizens of the United States are globally literate is the responsibility of the educational system" (Durbin et al., 2005). Although this resolution is current, work to add a globalization component to education, including study abroad programs, has been underway for a number of years. Acker and Taylor (2000) reported the efforts of the North Central Region Colleges of Agriculture to globalize the undergraduate learning environment in response to the emerging importance of this topic (Ford Foundation, 1997; National Association of State Univer-

sities and Land-Grant Colleges, Strategic Vision Committee, 2000; North Central Region Colleges of Agriculture Curricular Committee, 1989). Today, assisting future citizens to function effectively in a global environment is an integral part of the mission and strategic plan of many universities (McPherson, 2001). To help fulfill this part of their mission, many institutions of higher education include some form of an international perspectives requirement as part of their undergraduate curriculum (Crunkilton et al., 2003).

One of Iowa State University's goals is to "... prepare its students to meet the challenges of responsible citizenship and effective professional roles in a culturally diverse global community" (Iowa State University, 2006). All undergraduate students are required to complete three credits of International Perspectives, in which the learning outcomes include furthering students' understanding of cultural diversity and interdepen-

dence on a global scale. Immersion in a foreign culture is often an effective way of meeting these objectives, and Iowa State University encourages study abroad experiences as a means of fulfilling the International Perspectives requirement (Iowa State University, 2006). Students can choose from a number of different programs across the university's colleges, including programs sponsored by the College of Agriculture. The Iowa State University College of Agriculture is second in the nation among colleges of agriculture in the number of undergraduates who study abroad. During the 2004 to 2005 academic year, the college offered study abroad opportunities in more than 20 countries on all seven continents (Woteki and Acker, 2004). The purpose of this study was to evaluate the Horticulture Travel Course (Hort 496) to determine whether it meets the expected learning outcomes of the university's International Perspectives requirement and the College of Agriculture's expected competencies in international and multicultural awareness. These learning outcomes and competencies include promoting students' understanding of cultural diversity and interdependence on a global scale, having awareness and understanding of cultural diversity within our own nation and around the world, and developing a global perspective on agricultural, environmental, economic, and natural resource issues.

Materials and methods

HORTICULTURE TRAVEL COURSE: HORT 496. Hort 496 is a three-credit course offered through the Iowa State University Department of Horticulture and it fulfills the university International Perspectives requirement. The first Hort 496 course was offered during spring semester 1998 and culminated in a 14-d trip to Scotland at the end of the semester. During the ensuing 8 years 116 students have participated in Hort 496. These students learned about and traveled to Austria, Hungary, England, France, Greece, the Netherlands, Italy, Ireland, Norway, Sweden, and the Ukraine. Although the content and itinerary varied each year, the general format of each course has been similar and includes a pretrip preparatory class and a study abroad experience

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led by a team of two or three Iowa State University horticulture faculty.

The pretrip preparatory class met for 2 h each week during the 17-week spring semester to discuss the history, culture, agriculture, and other topics unique to the destination countries. Often these class discussions were led by guest speakers native to the destination countries or by those who had lived there for an extended time. Another important part of the class included student presentations. Students selected a topic of interest related to the countries, wrote a report, and gave a presentation in class. In addition to studying the destination countries, the class also prepared students for international travel (e.g., obtaining a passport, language, safety). Each of the study abroad experiences lasted 10 to 14 d and cost less than \$2500 for each student.

Although each trip emphasized the horticulture and agriculture of the countries, other sites of historical and cultural interest were included to broaden and enhance the in-country experiences. A typical trip format included 3 to 4 d in major cities, with day trips to nearby horticulture or agriculture facilities, such as production greenhouses, farms, wineries, botanical gardens, and golf courses. Often each of these day trips included one or more tours led by the facility manager or owner. Students typically had a free afternoon or evening in each city to explore on their own. Transportation between cities was most often via rented coaches or trains, although in the larger cities the group traveled via public transportation.

SURVEY INSTRUMENT. In consultation with experts at the Iowa State University Center for Statistics and Methodology and the Iowa State University Institutional Review Board, a 23-question survey instrument was developed. Questions were designed to gather information on student demographics and students' previous international travel experiences, whether learning outcomes were achieved through participation in the pretrip preparatory class and the study abroad experience, and how these experiences influenced career development. The questionnaire consisted of 10 closed-ended and 13 open-ended questions. The closed-end questions were formatted based on a

5-point Likert-type scale (Likert, 1932) for which respondents specified their level of agreement with a statement. On 28 Feb. 2006, questionnaires were mailed to all 116 past participants (1998–2005) in Hort 496. On 11 Mar. 2006 a reminder postcard was sent to nonrespondents. Data collection was completed Apr. 2006. Data were entered using Excel (Microsoft Corp., Redmond, Wash.) and descriptive statistics were computed.

Results and discussion

Of the 116 questionnaires mailed, 12 were returned as nondeliverable. All 45 questionnaires (43%) that were returned were usable.

DEMOGRAPHICS. Women accounted for 58% of the total population ($n = 116$) of Hort 496 participants, and men made up the remaining 42%. The percentage of respondents from each gender was similar, with 63% of respondents being female and 37% being male. The vast majority of respondents were white (89%), 7% were from other ethnic backgrounds, and 4% did not state their ethnic background. The Institute of International Education (2004) also reported a similar trend in gender demographics, with a large percentage (65%) of study abroad participants being female. They also reported similar high percentages of white students (83%) participating in study abroad programs in 2004 (Institute of International Education; 2004). The average age of respondents was 26 years. Seventy-six percent of respondents had graduated, 13% were seniors, 4% were graduate students, and 7% were not currently enrolled. Because Hort 496 is offered as part of the horticulture curriculum, it is not surprising that 76% of respondents were horticulture majors. From the remaining respondents, an equal number (11%) were from other departments within the College of Agriculture and from outside the College of Agriculture.

TRAVEL EXPERIENCE. Although a majority of respondents (64%) enrolled in Hort 496 only one time, many respondents enrolled multiple times. Twenty-two percent enrolled twice, 11% enrolled three times, and 4% enrolled four times. It is interesting to note that only three credits (one course) are needed to satisfy the

university's International Perspectives requirement. Any additional credits students earn through Hort 496 are classified as elective credits. Their participation in additional Hort 496 courses suggests they may prefer this type of learning experience over a traditional three-credit course taken on campus.

More than half (54%) the respondents traveled to a foreign country before taking the course, and 33% have traveled abroad since then. Students strongly agreed (4.67 of 5 points) that they gained self-confidence to travel abroad again as a result of participating in the course. The lower percentage of respondents who have traveled abroad since participating in the course may be, in part, a result of their average age (26 years), a lack of funds to travel abroad, and the fact the survey was conducted ≤ 10 years after their Hort 496 experience.

The cost of the study abroad experience ($\leq \$2500$) is in addition to the three-credit tuition expense. The College of Agriculture and the university offer multiple financial assistance programs to students participating in international travel courses, and a majority (65%) of respondents received some form of financial assistance (tuition reimbursement, scholarships, financial aid, grants). Although 65% of respondents received financial assistance, the cost of the trip was not the primary consideration for those students deciding to enroll in Hort 496. The average response was neutral, 2.98 points (1 point, not at all important; 5 points, very important), when students were asked about the importance of financial assistance in deciding to participate.

LEARNING OUTCOMES. Participants were asked to respond to 10 statements related to learning outcomes linked directly to the university and the College of Agriculture's expected learning outcomes, competencies for the International Perspectives requirement, and multicultural awareness.

Questions were categorized into the four broad areas of history, culture, politics, and agriculture. Each statement started with "As a result of the pretrip preparatory class I ..." or "As a result of the study abroad trip experience I" The descriptors

then included terms such as increased knowledge, increased understanding, and increased appreciation (Table 1).

Responses were based on a scale of 1 to 5 points (1, strongly disagree; 5, strongly agree) with an additional category of “don’t know.” There were no “don’t know” responses to any statement. Learning outcomes were measured separately for the pretrip preparatory class and the study abroad experience (Table 1). Respondents agreed or strongly agreed with all 10 statements that the pretrip preparatory class educated them about the country and culture before the trip. Responses to all 10 statements were slightly higher for the study abroad experience compared with the pretrip preparatory class (Table 1).

PERSONAL GROWTH. Many students agreed or strongly agreed that the pretrip preparatory class and study abroad experience affected their personal growth (Table 2). Again, there were no “don’t know” responses. The class and trip proved especially helpful in increasing participant knowledge of another country, inciting interest and increasing awareness about different cultures, and increasing self-confidence in international travel. Nassar (2004) reported a similar response in these four areas from students who participated in a landscape architecture study abroad program to Italy.

In addition to closed-ended questions related to personal growth, respondents were asked to complete a series of six open-ended questions. They were asked to describe what experiences associated with the pretrip preparatory class and study abroad experience immersed them the most in the culture of the country, motivated them the most in their field of study/career, and changed them the most, and what they valued the most from their experience in the country.

Presentations by students ranked as the most immersing experience associated with the pretrip preparatory class, followed by guest speakers (Fig. 1). Interacting with the locals and participating in planned tours resulted in similar opinions of immersion for the study abroad experience (Fig. 2). Examples of how respondents described interacting with locals

Table 1. Mean ratings regarding learning outcome statements for a pretrip preparatory class and study abroad experience in a horticulture course (n = 45).

Statement	Pretrip preparatory class mean rating ^z	Study abroad experience mean rating ^z
Increased my knowledge of another country	4.68	4.89
Increased my understanding of how to communicate in another culture	3.86	4.26
Increased my knowledge of the country’s political system	3.05	3.20
Increased my understanding of diversity	4.00	4.30
Increased my appreciation of another country’s history	4.55	4.70
Increased my understanding of a country’s agricultural production systems	4.16	4.28
Increased my familiarity with agriculture practices different from the United States	3.98	4.29
Increased my understanding of why political, cultural, and economic reasons might make agricultural practices different from the United States	3.72	3.93
Increased my understanding of how agriculture affects the country’s economy	3.80	3.82
Increased my understanding of how the country’s agriculture affects the U.S. economy	3.23	3.32

^zRatings are based on a 5-point scale for which 1 point means strongly disagree and 5 points means strongly agree.

Table 2. Mean ratings regarding personal growth for a pretrip preparatory class and study abroad experience in a horticulture course (n = 45).

Statement	Mean rating ^z
I increased my knowledge of another country.	4.77
I improved my written communication skills.	3.16
I improved my oral communication skills.	3.64
I improved my ability to work as part of a group.	4.00
I improved my problem-solving skills.	3.64
I would like to learn more about different cultures.	4.65
I am more aware of the diversity of different cultures.	4.54
I gained self-confidence to travel abroad again.	4.67
I increased my self-esteem.	4.00

^zRatings are based on a 5-point scale for which 1 point means strongly disagree and 5 points means strongly agree.

included “chatting with locals at a pub,” “visiting people’s homes,” “talking to students at the university,” and “everyday interactions such as shopping, eating, and using public transportation.”

When asked what experiences associated with the pretrip class motivated them most in their field of study/career, 30% of respondents noted the opportunity to learn about topics (culture, politics, horticulture crops, public gardens) unique to the country they would visit as most important. Thirteen percent listed the opportunity to travel as their primary motivation, whereas 9% listed the opportunity to improve their interpersonal communication skills as the most motivating.

When asked the same motivation question in relation to the study abroad experience, 40% listed visiting specific sites in country (e.g., botanic gardens, production facilities) as the most motivating factor. Thirteen percent noted communicating with others (within the group and at site visits) as the most motivating, and others felt seeing things firsthand (7%) and providing time for self-analysis (4%) were the most motivating experiences.

Interactions with locals can be a significant and important part of a study abroad experience. Respondents to this survey noted visiting with locals (38%) and learning about their perspective on America or Americans (13%) as the events that changed

Fig. 1. Percentage of responses for most immersing experience associated with the pretrip preparatory class component of a horticulture travel course.

Fig. 2. Percentage of responses for most immersing experience associated with the study abroad experience component of a horticulture travel course.

them the most. Furthermore, 36% of student respondents valued the opportunity to experience another culture the most. Others appreciated the opportunity to travel with friends, make new friends, and gain confidence as the most valuable part of their Hort 496 experience.

Horticulture majors were asked to determine whether they observed recognizable differences in management or production practices between the United States and the countries visited (Table 3). If they answered yes, they were then asked to describe these differences and if they had applied what they observed. A majority of the observed differences were related to management, including more intensive management techniques (22%), as well as less intensive management techniques (18%). Examples of more intensive management techniques listed by horticulture majors included use of more

Table 3. Number of responses from horticulture majors ($n = 35$) participating in the study abroad experience component of a horticulture travel course who noticed recognizable differences in management/production practices in different areas of horticulture between the United States and another country.

Area of potential difference	Yes	No	Don't know
Golf courses	11	3	21
Public gardens	24	3	8
Fruit and vegetable production	23	6	6
Garden centers	17	7	11
Others	0	0	0

manual labor, highly manicured display gardens, more attention to details in the display beds, and more extensive and well-maintained public gardens. Examples of less intensive management techniques included the practices seem primitive, more environmentally friendly practices, more naturalistic areas in gardens, more sustainable practices (lower inputs) on golf courses, and less use of chemicals. Furthermore, only 7% of respondents who noted differences in management techniques reported they had applied these more or less intensive practices and 22% had not.

Nonhorticulture majors were asked whether they learned new skills related to their major as a result of participating in the trip and whether they had applied any of these skills. Seven of the eight nonmajor respondents reported learning better communication skills and six of these seven noted they use these skills frequently. Sumka (1999) also reported that studying abroad helped students learn and apply new skills such as problem-solving and other skills associated with making career and life decisions.

Opportunities for short-term (≤ 8 –10 weeks) study abroad experiences, such as Hort 496, are increasing at colleges and universities in the United States (Institute of International Education, 2004). This is a major shift from the longer term (full academic year) experiences abroad prevalent during the 1950s and 1960s (Dwyer and Peters, 2004; Spencer and Tuma, 2002). In 2003, only 7% of study abroad experiences were for the full academic year compared with an average of 72% in the 1950s and 1960s (Neppel, 2005).

There is emerging research comparing the learning outcomes of short-term and long-term study abroad experiences. Neppel (2005) suggests that long-term study abroad experi-

ences are likely to produce more growth in learning outcomes than short-term courses. Examples of these learning outcomes attained during long-term programs include increased foreign language proficiency, increased topical knowledge, increased ethnorelativism, increased world-mindedness, and increased cross-cultural communication and interpersonal skills (Neppel, 2005). Yet, short-term study abroad experiences can still be a valuable learning opportunity for undergraduate students (Hovde, 2002). Examples of benefits attained from these short-term programs include increased global and cultural awareness, and the opportunity for students to travel internationally who otherwise would be deterred because of cost, class scheduling conflicts, or lack of self-confidence or preparedness to spend a semester abroad (Neppel, 2005).

Based on participant responses, the Horticulture Travel Course (Hort 496) offered through the Department of Horticulture at Iowa State University is meeting both the university and College of Agriculture learning outcomes and expected competencies for International Perspectives requirements and multicultural awareness. This course also enhances students' personal growth, particularly in the area of interpersonal communication.

Students valued their experiences with this course for a number of reasons, including the opportunity to experience a country directly, and the personal growth that occurred as a result of their experiences. Students who participated fully in this course were immersed in a new culture and gained firsthand knowledge through their combined experiences of the pretrip preparatory class and the study abroad trip—something that is difficult to achieve in a college classroom alone. The Iowa State University Hort

496 course can serve as a model for other universities that are considering offering a study abroad travel course.

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