

## **Global Awareness and Understanding of Governor School Scholars: A Four-Year Study**

Rama B. Radhakrishna  
Clemson University

David Dominguez  
University of Texas at Austin

### **Abstract**

Literature suggests that there is limited awareness and understanding of international concepts among high school and college students. This study assessed global awareness and understanding of 252 high school juniors and seniors who participated in the Pennsylvania Governor School for Agricultural Sciences (PGSAS) program during the years 1995, 1996, 1997, and 1998. A survey on international concepts relative to agricultural policies and products, people and culture, world geography, and world organizations was developed. The survey was administered during a regular class period. Findings from this four-year study suggest that governor school scholars possess limited awareness and understanding about international concepts. However, scholars scored over 70 percent of the questions correct in the world geography section. In addition, scholars' scores on the survey for the four years did not show any marked difference. Overall, scholars answered only a little over one-half of the total questions correct. The results of this study have provided ample justification to hasten curricular changes relative to international education in our schools, colleges and universities.

### **Introduction**

Global awareness and understanding is of critical importance if we are to prepare students to compete in a global economy (Bikson, 1996). Findings from several studies suggest that there is limited awareness and understanding of international concepts among high school and college students (Holmes, 1995; the International Council, 1994; and Welton and Harbstreet, 1990). Findings also suggest that: 1) faculty in major colleges and universities are not themselves well aware of international concepts in their respective disciplines; 2) only five percent of college graduates reach a meaningful proficiency in foreign language even when coming from bilingual homes; 3) only five percent of school teachers in the United States have taken courses of significant international content or had limited professional contact with other cultures; and 4) 40 percent of foreign scholars living in America are not able to conduct research in the language of their host country (The International Council, 1994).

A number of studies have emphasized the importance of global awareness and education (Tritz and Martin, 1997; Bikson, 1996; Sarodia, 1996; Holmes, 1995; and Welton and Harbstreet, 1990). The consensus from these studies suggest that measures be taken to infuse international concepts in schools, colleges and universities because: 1) events that occur in other

nations have a major impact on U.S. communities, agribusiness, and farms; 2) knowledge about history, geography, political systems, various cultures, and languages are critical to global understanding; and 3) the advances made in communication technologies, travel, study abroad programs, international dependence on agricultural products, and international export markets seem to create a better understanding of the globe beyond the boundaries of states and the nation.

Other studies have provided evidence and justification for emphasizing global awareness and education in schools, colleges and universities. Opper, Teichler and Carlson (1990) indicated that an international experience provides cultural awareness, improves communication abilities, and increases foreign language skills. Tritz and Martin (1997) suggest that exposure to a country, its people and its culture, will all have an amazing effect on anyone who has studied abroad. As a result of the exposure, perceptions are changed, thoughts challenged, and most important, a more worldly perspective is garnered. They suggest that increased opportunities and resources be provided to students to participate in study abroad programs.

Duffey, Toness, and Christiansen (1998) in their study of internationalization of Land Grant University (LGU) curriculum suggested that if LGUs are to

remain as leaders in this changing environment, their curriculum must reflect growing complexities of the globalization trend and the interconnectedness between humans and the natural world. They also concluded that LGUs have made strides in research and extension, but they have largely neglected the curriculum. They recommended that internationalization of a curriculum must be pursued if LGUs are to reflect global realities and to fulfill their mission in preparing students to be effective resource managers in the future.

Welton and Harbstreet (1990) assessed awareness of international concepts among 1,398 secondary agricultural education students in Kansas. They assessed international awareness by including 50 questions which dealt with agricultural policies and products, geography, people and culture. They found that overall 36 percent of the 50 questions were correctly answered by students. Findings indicated that the highest number of correct responses occurred in the geography section (56%), while the lowest occurred in the agricultural products section (32%). They concluded that agricultural education students had a limited awareness in international agricultural policies and concepts, world geography, and people and cultures. They suggested that efforts to infuse international concepts at the secondary level should be accelerated.

Bikson (1996) examined the perspectives of 350 administrators of major corporations and colleges and universities in the U.S. on issues related to educating a globally prepared workforce. Both groups of administrators perceived that knowledge about history, world geography, and political systems are important for global understanding. Corporate administrators perceived that Americans should know more about the rest of the world if they wanted to participate in the global economy. They also perceived that: 1) almost all jobs in the future will either require or benefit from global awareness and understanding; 2) firms and academic institutions should develop a framework for co-producing a globally competent workforce; and 3) future job candidates should adopt a long-term career plan, developing multi-cultural competence on their own in preparation for specific international opportunities.

### **Purpose and Objectives**

The major purpose of this study was to assess global awareness and understanding of Pennsylvania Governor School for Agricultural Sciences (PGSAS) scholars over a four-year period. Specific objectives

of the study were to:

- 1) assess the awareness of scholars in international concepts relative to agricultural policies and products, people and culture, world geography, and international organizations; and
- 2) examine trends in scholars' responses to international concepts relative to agricultural policies and products, people and culture, world geography, and international organizations over a four-year period.

### **Methodology**

The population for the study consisted of all 252 scholars who attended the PGSAS program during the years 1995, 1996, 1997 and 1998. Scholars resided in communities across the state of Pennsylvania and ranged in age from 15 to 17 years. Scholars were selected to participate in the Governor's School on a competitive basis. All scholars had previously demonstrated exceptional ability in the sciences and had expressed interest in some phase of agriculture. Specific selection criteria included: grade point average, class rank, letters of recommendation, a personal essay, and course transcripts.

A five-section survey instrument was developed to collect data. Sections one and two comprised 25 sentence completion and multiple choice questions on agricultural policy, products, people and cultures. Sections three and four consisted of 21 questions on world geography and international organizations. Section five contained demographic information. A three-member panel of experts assessed the instrument for face and content validity. The survey was administered to scholars during a regular scheduled class hour. Each correct response on the completed surveys received one point. Frequencies and percentages were used to summarize the results.

### **Results and/or Conclusions**

#### Objectives 1 and 2

The percent of correct responses for all four sections of the survey are shown in Tables 1 through 4. As shown, scholars scored highest in world geography (map section--Table 4), followed by agricultural products and policies (sentence completion section--Table 1) and people and culture section (multiple choice section--Table 2). The scores were lowest for world organizations (acronym section--Table 3) for all four groups. Overall, the scores for these sections

were more or less similar for all four groups. However, one major difference among the four groups was in acronym section in which the 1996 scholars scored at least 15-20 percentage points higher than the other three groups.

A closer examination of correct/incorrect responses to specific questions in each of the sections for the four groups revealed similar trends. For example, approximately two-thirds of the scholars answered all the questions correctly in the agricultural policies and products section. The lowest score for all the four groups was six percent and the highest 97% with the average ranging from a low of 60 percentage points for 1998 scholars to a high of 64 percentage points for 1997 scholars. In addition, all four groups answered incorrectly similar questions (questions 8, 12 and 13 in agricultural products and policies section and questions 7 and 10 in people and culture section).

As indicated earlier, the world organizations (acronym section) was the most poorly answered section (Table 3). Scholars were asked to spell out eleven acronyms of world organizations. A majority of scholars could not spell out IMF, USAID, UNICEF, and ASEAN. However, one-half of all scholars were able to spell out NAFTA correctly. Perhaps this due to the fact that NAFTA was discussed, debated and widely publicized in the news media. The other possible reason may be the likely impact of NAFTA on the American economy, production, and jobs. Overall, the average score for this section ranged from a low of 21 points for 1998 scholars to a high of 41 points for 1996 scholars.

The world geography or map section was the most correctly answered section. The scores ranged from a low of 31 percentage points to a high of 100 points. A little over two-thirds of all scholars could not identify Chad on the map. Two plausible reasons could account for high scores in this section. First, students are constantly taught geography lessons throughout K-12 levels. Second, the awareness, preparation, and participation in Geography Bee competition might have added to the high scores.

Overall, the findings from this four-year study suggest that governor school scholars possess limited knowledge and awareness about international concepts. It is interesting and important to note that the scores of scholars for the four years did not change between the four class groups (95, 96, 97, and 98). The findings achieved in this study mirror

findings of Welton and Harbstreit (1990) study of secondary agricultural education students in Kansas.

### **Educational Importance**

This four-year analysis of awareness and understanding of international concepts among governor school scholars has provided ample justification to accelerate curricular changes relative to international education in our schools, colleges and universities. If the top scholars who are admitted to the governor school possess very limited knowledge, what about other students in Pennsylvania and students in other states? One would expect similar results. What is the answer to the crisis of "Aglobal illiteracy" in American schools and colleges? The answer is more education, that is, issues and/or topics relative to foreign affairs and world culture should be integrated into the curriculum. It is necessary to create an educational system that includes international concepts in all classes instead of just social science classes.

Schools, colleges, and universities have a major role to play in infusing international awareness and understanding concepts into the curriculum. The findings of this study should be shared with school superintendents, deans of colleges of agriculture, department heads, and curricular advisory committees to make informed decisions about curricular changes. It is recommended that schools, colleges and universities accelerate the process of infusing international concepts into the curriculum. Such processes can be accomplished through:

- 01 encouraging teachers and faculty to build an international perspective into their curriculum by presenting lessons in a global context;
- 2) providing opportunities--study abroad programs, internships, and exchange programs -- for students to have a better understanding of international concepts; and
- 3) reflecting on international concepts in the class room to help students become sensitive to different cultures, and prepare them for dealing with people from different countries. Sensitivity to different cultures will become increasingly important as demographics of America continues to change in the new millennium.

Percent of Correct Responses to Agricultural Products and Policies Questions - Sentence Completion Section

Agricultural Products and Policies	Year			
	1995 (N=63) %	1996 (N=63) %	1997 (N=62) %	1998 (N=64) %
02 The cereal grain that is the most basic food for more than one-half of the world=s population is	62	64	63	50
03 The smallest of the seven continents is	70	70	77	80
04 Both wine and raisins come from the fruit called	92	97	97	97
05 The world=s largest hot desert is	79	78	84	87
06 The country that produces the most rice	71	74	73	70
07 The mountain range that runs along a coast of South America is called	81	79	87	78
08 The most populated country in the world	75	76	81	81
09 The country that exports the most wool	20	11	23	14
010 The original inhabitants of Australia were	67	65	72	61
011 The leading exporter of wheat is	74	76	82	73
012 The country where people spend yens is	69	71	72	67
013 The national language of India is	29	26	38	38
014 The country that produces the largest volume of swine is	23	9	22	6
015 The national language of Brazil is	53	54	61	59
016 The country located to east of Laos is	60	35	54	33
Overall	61	63	64	60

Table 2

Percent of Correct Responses to People and Culture Questions - Multiple Choice Section

People and Culture	Year			
	1995 (N=63) %	1996 (N=63) %	1997 (N=62) %	1998 (N=64) %
1. The economic strength of a country can be measured by	78	63	87	80
2. Considering developed and developing nations, the projection of the world population for the year 2000 show the largest segment will be in	55	51	54	66
3. A country with a high standard of living a strong economy, and an array of wealth and skills is	92	93	95	89
4. Countries that are a part of the EEC include	54	43	46	34
5. At what latitude would you expect to find a tropical rainforest	72	77	73	72
6. The United States trades with other countries because	89	87	77	69
7. The percent of land potentially available for food production is	31	28	25	37
8. The four main oceans are	91	80	92	87
9. Two examples of import control include	50	56	16	17
10. The largest producer of tea in the world	22	18	18	19
Overall	63	60	58	57

- 4) further research is needed to determine perceptions of school principals, college deans, and department heads relative to preparing a globally educated workforce.

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Table 3

Percent of Correct Responses to World Organizations Questions--Acronym Section

World Organizations	Year			
	1995 (N=63) %	1996 (N=63) %	1997 (N=62) %	1998 (N=64) %
1. International Monetary Fund (IMF)	19	25	16	12
2. United States Agency for International Development (USAID)	10	13	10	2
3. United Nations International Children=s Emergency Fund (UNICEF)	13	19	12	5
4. Organization of Petroleum Exporting Countries (OPEC)	21	43	19	14
5. General Agreement on Trade and Tariffs (GATT)	24	40	21	9
6. World Health Organization (WHO)	61	68	62	17
7. United States Department of Agriculture (USDA)	27	55	25	58
8. Association of South East Asian Nations (ASEAN)	13	25	8	9
9. North Atlantic Treaty Organizations (NATO)	30	51	30	30
10. Pennsylvania Department of Agriculture (PDA)	20	33	18	19
11. North American Free Trade Agreement (NAFTA)	46	75	51	59
Overall	24	41	22	21

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Table 4

Percent of Correct Responses to World Geography Questions - Map Section

World Geography	Year			
	1995 (N=63) %	1996 (N=63) %	1997 (N=62) %	1998 (N=64) %
1. Label the Indian Ocean	93	--	95	86
2. Label one country that is on 2 continents	82	--	81	62
3. Put a C on Chad (the country)	40	--	31	34
4. Put a 4 on South Africa	89	--	91	75
5. Put a 5 on Ecuador	57	--	40	47
6. Put a 6 on Japan	80	--	90	88
7. Put a 7 on Canada	91	--	92	97
8. Put 8 on Mexico	89	--	93	97
9. Put 9 on China	92	--	97	95
10. Show with arrows N,S,E, W	97	--	98	100
Overall	79	--	81	78

Note: Map section was not included in the survey for 1996 scholars