

IS GEOGRAPHICAL ILLITERACY COSTING AMERICA BUSINESS?

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ABSTRACT

"Contras in Norway, nuclear weapons in Switzerland, pandas in Panama, the summer Olympics in Iraq, the United States in Botswana. These extreme examples of geographic illiteracy actually popped out of the mouths of American adults in a recent Gallup survey" (Grosvenor 1988).

Unbelievable, perhaps, but these are typical responses and not isolated examples. The recent results of the National Geographic Society survey of approximately 11,000 adults in nine countries placed Americans below their counterparts in Sweden, West Germany, Japan, France and Canada, and on equal footing with those in the United Kingdom in regard to geographical knowledge. Only Italy and Mexico did worse. (Vobejda 1988).

PURPOSE OF THE STUDY

What does this appalling level of geographic knowledge mean and does it cost America business? We propose it does. Americans do not understand the world at a critical time in our history when we need to understand global issues such as trade, foreign consumers and their customs, effects of population changes on market share, identification of untapped energy and mineral deposits. Understanding factors such as these is not possible without an understanding of geography. Indeed our economic survival depends on our geographical literacy. Yet Americans' knowledge of geography is disturbingly low.

RELATED LITERATURE

Just how illiterate are we? The results of the National Geographic Society's survey administered by the Gallup organization are shocking. The average score among Americans was 8.6, slightly more than half correct. Making the situation appear even more grim is the fact that our 18 to 24 year olds, the most recent products of our education systems, scored lower than their counterparts in eight other countries, and more disturbing, lower than older Americans (Grosvenor 1988). The

United States was the only country whose young adults scored below its older adults, aged 55 and over. Americans aged 18 to 24 averaged only 6.9 correct (Grosvenor 1988).

One out of seven Americans cannot identify the United States on a world map. Further, 75 percent of Americans surveyed were unable to locate the Persian Gulf (Vobejda 1988). One-fourth of all Americans surveyed cannot locate the Pacific Ocean and 16 percent think the former Soviet Union is in NATO (Washington Post 1988). Additionally, only one-third of the adults surveyed could locate Vietnam, the site of America's longest war, and fewer than half could locate the United Kingdom, France, or Japan (Los Angeles Times 1988), major economic competitors of the United States.

In February 1990, Lauro Cavazos, Education Secretary, announced the results of the first national geography test given to a sample of high school seniors. The students scored an average of 57 percent, proving once again there is "a disturbing gap" in our knowledge of the world. Only one-half of the students knew the Panama Canal cut sailing time between New York and San Francisco, not between New York and London. Slightly more than half did not know the Amazon River does not flow through Argentina (Cooper 1990). Seventy-one percent of the students correctly identified Latin America, but 15 percent confused it with Saharan Africa. In a map showing population centers, almost one-fourth mistakenly identified them as mineral deposits (Pogatchnik 1990).

A study reported by Anderson and Atta (1990) showed that more than half of American university students surveyed could not find Chicago on a map. Of further embarrassment is that in a national sample of U.S. adults (Morin 1989), one out of six persons could not correctly determine if Alaska was a territory, state, or country. In fact, 5 percent of the sample thought Alaska was a separate country.

In summary, the research on geographical literacy to date indicates that Americans are by and large illiterate. The research has been conducted on the

public at large and high school students, and students at large universities. This study will attempt to answer whether this phenomenon is also prevalent at the mid-sized public university and also whether business students are more geographically literate than other college students.

RESEARCH METHODS

A survey was designed to determine the level of awareness concerning geographic locations in the United States among students at a mid-sized west coast public university. A quota sample of 200 students was selected from several business and non-business classes at this university. The quota specified that half should be non-business and half business majors. Every attempt was made to create a good cross-sectional sample by choosing classes that each of the two groups would likely take.

Each respondent was given a "blank" map of the United States. The map showed the outlines of each state, which were labelled 1 through 51 (including Puerto Rico). Respondents were asked to identify ten states and seven major cities, located throughout every major region in the United States. Specifically, students were asked to identify Idaho, Indiana, Kansas, Louisiana, Mississippi, Missouri, New Hampshire, Pennsylvania, Virginia, Wyoming, Boise, Chicago, Dallas, Detroit, Miami, Philadelphia, and San Diego. Students were asked to identify states by number, and identify cities by putting a letter in the correct location on the map.

Scoring the correctness of identification of the states was straightforward because the numbers were already on the map. Scoring the correctness of the location of cities was accomplished as follows. Each state was divided into four equal quadrants based on land area. If the respondent's mark (a letter) showing a city fell into the correct quadrant, it was scored as a correct response. If the mark intercepted a line or border of the proper quadrant, this was also considered a correct response.

In addition to asking the respondents to identify the 17 locations, a few demographic characteristics were also collected.

RESULTS

First the overall level of geographic awareness will be presented. Of the 200 students, 2 got a perfect

score, while 3 failed to get a single location correct. On average, students correctly identified 8.8 (51.8%) of the 17 locations. If 70 percent correct is arbitrarily regarded as a "minimal competence" level, then only 28 percent of the students could be regarded as having minimal competence of geographic locations in the United States. See Table 1 for percent of locations correctly identified.

TABLE 1
Percent of Locations Correctly Identified

| LOCATION | BUSINESS STUDENTS N = 100 | NON-BUSINESS STUDENTS N = 100 |
|---------------|------------------------------|----------------------------------|
| Idaho | 93 | 97 |
| Indiana | 48 | 46 |
| Kansas | 40 | 58 |
| Louisiana | 64 | 63 |
| Mississippi | 48 | 63 |
| Missouri | 35 | 43 |
| New Hampshire | 34 | 33 |
| Pennsylvania | 62 | 65 |
| Virginia | 50 | 62 |
| Wyoming | 64 | 63 |
| Boise | 57 | 55 |
| Chicago | 48 | 34 |
| Dallas | 31 | 23 |
| Detroit | 27 | 20 |
| Miami | 64 | 61 |
| Philadelphia | 35 | 20 |
| San Diego | 64 | 87 |

Not surprisingly, students were more accurate in locating states than cities. Overall, students correctly identified 56.6 percent of the states versus 46.4 percent of the cities. Almost all students, 93 percent of the business students and 97 percent of the non-business students correctly identified Idaho, which is an adjacent state to the West Coast. Students were least accurate in identifying New Hampshire with only one-third of the students identifying that state. San Diego was the city whose location was most accurately identified by the students (87 percent), while Miami was the second most accurately identified city (62.5 percent). Among incorrect responses, it appeared that there was a tendency to confuse Illinois with Indiana and to place Detroit in the state of Wisconsin.

The ability of students to correctly identify the location of states and cities may depend, to some

extent, on the geographic location of the students. This might explain, for example, why students from the west coast are best able to identify Idaho and San Diego. However, geographical distance clearly does not account for the entire pattern, or Miami would not be correctly identified by so many of the university students. It would be interesting for future research to explore the factors related to locations (e.g., the size of the population residing in that location, the distance from the respondent to the location, or how frequently it is cited in national news broadcasts).

A central purpose of the survey was to determine whether business majors have greater geographic awareness than do non-business majors. The answer is clearly "No." The average score for business majors was 8.8, barely higher than the average of 8.7 for non-business majors; using a standard difference of means test, this difference is not significant at the .05 level ($t = .67, p > .7486$). Using the criterion of "minimal competence" mentioned above, 29 percent and 27 percent of the business and non-business majors, respectively, can be regarded as minimally competent.

Even if there is no significant difference between business and non-business majors, do some majors have geographically more aware students? When non-business majors are subdivided into different colleges, the numbers of cases become rather restricted, but some suggestive differences appear. Students majoring in Applied Arts and Engineering appear to have less geographical awareness than business majors. On the other hand, students majoring in the Fine and Performing Arts, the Liberal Arts and Sciences, and, especially Education, appear to have somewhat greater geographical awareness than do business majors. However, except for the Liberal Arts and Sciences majors ($n = 54$), the sample contains a very limited number of majors in other colleges ($n < 15$).

One would anticipate that geographical awareness would be related to maturity. There are two indices of maturity. Age is a measure of chronological maturity, while class standing can be viewed as a measure of intellectual maturity. The data provide only weak evidence in favor of the maturity argument. Looking first at class, we find that Sophomores do, in fact, have higher scores than Freshmen, and Juniors score higher than Sophomores. However, Seniors score lower than both Juniors and

Sophomores. The small number of graduate students score substantially higher than any of the undergraduate classes, but this may be due to the much greater degree of admissions selectivity in graduate studies than to maturation per se.

A second index of maturity is age. There is virtually no evidence that older students have greater geographic awareness. Ironically, students 17 years and younger have the highest awareness scores ($\bar{X} = 12.5$), but this result is unreliable because there are only two students in this age group. Students age 18-22 have higher scores ($\bar{X} = 9.11$) than those 23-27 ($\bar{X} = 8.36$), who have higher scores than those 28-32 ($\bar{X} = 6.88$). The scores of students 33-38 ($\bar{X} = 9.12$) are nearly identical to those of students 18-22. Students 39 and older have relatively high scores ($\bar{X} = 10.25$), but again there are few students in this category.

CONCLUSIONS AND RECOMMENDATIONS

These and other results show that college students, like other Americans, are geographically illiterate. Business students do not have more awareness of geography than other students. As a result, we, as business educators, need to be aware of the high level of geographical illiteracy. We need to help students improve in this area so that they are better at identifying new markets, designing distribution systems, understanding foreign customers and their cultures, and analyzing international trade issues. In general, Americans need to understand geography because it provides a framework for understanding the world and the business opportunities that await us. The problem has become so serious that a panel of governors warned that the economic well-being of the United States is in jeopardy because so many Americans are ignorant of the languages and cultures of other nations (Lewis 1990).

We face an ever increasing competitive world. We better understand the Pacific Rim countries. Japan's economic power is well recognized, but have we really understood the power of South Korea, Taiwan, Singapore, Thailand, and Indonesia? Now Laos and Vietnam are developing their economic infrastructure that some feel will rival their neighbors in Southeast Asia. Can we see this region as potential markets for our goods and services if we cannot place it on a map? Can we understand this region's strengths and weaknesses

in order to compete if we do not understand its physical and cultural geography?

Europe is revolutionizing its trade. By 1992, all borders, currencies, and other barriers to the flow of goods and services among the twelve nation European Community will be lifted, creating one of the largest markets in the world for us to compete with. Do we understand what this will likely do to our ability to sell products in Europe?

With the collapse of communism large new markets in Eastern Europe and the former Soviet Union await development. As any traveler to these countries know, Western European counties are heavily engaged in trade in Eastern Europe and the western part of the former Soviet Union, while Japan and South Korea are developing business opportunities in Far East Russia. It appears only that the United States isn't actively developing the business relationship with these countries that will lead to profitable business deals later. Is that because we are geographically ignorant of these countries and are therefore not able to see the economic potential?

Without a thorough grasp of geography, we see the world from our own narrow perspective with serious economic consequences. "Geographic ignorance had its consequences when massive bank loans were made to third world countries. Any competent economic geographer could have warned the bankers that many of these countries did not have the harvestable natural resources even to pay off the interest on the loans" (Grosvenor 1988).

What can we do about geographical illiteracy? As business educators, we can do the following:

- Make students aware of how geographically illiterate our society is so they are sensitized to the issue and know they should improve their geographical knowledge.
- Require our students to take a geography course as part of their social science requirements.
- Have maps in our classrooms or use transparencies of maps when making a geographical point.
- Make students aware of computer software such as PC-USA and PC-WORLD that contains a wealth of physical and cultural geographical information.

There is no mystery behind geographic illiteracy. Americans don't know geography because almost no high schools teach it anymore and colleges and universities do not require it (Washington Post 1989). So besides our own efforts in the classroom, we should be lending our voices to those of the National Geographic Society and urge that geography be put back into the curricula. If we do not do this for our own edification, we should at least do it for our future economic survival.

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