This study determined the level of global knowledge and attitudes of selected American undergraduate students at Oregon State University (O.S.U.) and examined the relationship between global knowledge and global attitudes and selected demographic characteristics. Specifically, this study aimed to 1) measure the level of global knowledge of selected college students at O.S.U., 2) assess the relationships between socio-demographic variables and global knowledge, 3) assess the global attitudes of selected college students at O.S.U., 4) assess the relationships between socio-demographic variables and global attitudes.

The data were collected in the fall of 1992. Five hundred and ninety-nine questionnaires were mailed to sophomore and senior students pursuing degrees in areas of home economics, business, and engineering at O.S.U.. The survey was completed and returned by 348 students, an initial response rate of 58 percent. Non-American citizens were deleted from the sample as well as those questionnaires with insufficient data, leaving 314 usable questionnaires; a final response rate of 52 percent. Data were coded and analyzed using t-tests and one-way analysis of variance (ANOVA). A 0.05 significance level was chosen as the criterion for rejection of the null hypotheses.

Among the 314 respondents, greater global knowledge was associated with the male gender, older age (25 and over), higher academic level
(senior), academic major of engineering (as compared with business and home economics), higher Grade Point Average (G.P.A. of 3.0 and above), no foreign language competency, and greater attention to world news, especially through reading the international section of newspapers and watching news on television. In addition, greater global knowledge was found among seniors whose mothers had some college education.

Higher global attitudes scores, as defined by the Student Self-Perceptions Scale, were associated with the female gender, older age, higher G.P.A., and greater attention to world news, especially through reading the international section of the newspapers and watching news on television. In addition, higher self-perceptions were found among sophomores who were the female gender and among seniors who were enrolled in home economics majors and who reported five or more weeks of international travel.

For the total sample and for the sub-sample of seniors, higher global attitudes scores as defined by the Student Opinion Survey, were associated with the female gender and being enrolled in home economics majors.
The Global Understanding of Selected Undergraduate Students at Oregon State University

by

Marcelle L. Stoll

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Head of Department of Human Development and Family Sciences

Redacted for privacy

Dean of Graduate School

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Global understanding is crucial today because of the many changes the world has seen in recent years. The following events illustrate these changes: the end of the cold war, the dwindling arms race, former communist countries embracing democracy and market mechanisms, arts thriving, and an environmental awareness that has pervaded the world (Naisbitt & Aburdene, 1990). The fact that every nation of the world is interdependent on others also necessitates increased global understanding by individuals. Nations are interdependent politically, economically, technologically, and environmentally (American Home Economics Association, 1990; Bailey & Firebaugh, 1986; Czarra, 1985; Peterson, 1989). Further, cooperation among nations is critical to resolve the world's problems (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1991). Global warming, ozone depletion and the increasing population are some problems which demand world attention to slow their deadly effects. The people of the world must work together to ensure that finite resources are not depleted for future generations. Global understanding is crucial.
Schools and universities have an excellent opportunity to encourage global understanding in students. An international curriculum, discussion of world events and problems in class, and study abroad opportunities are examples of ways in which schools can encourage students' global understanding. Oregon State University's (O.S.U.) goal in 1987 was to "broaden the university's international perspective and focus its activities" (Creating the Future: A Plan for Beginning the '90s, 1990, p. 26). Schools and universities are recognizing increased global understanding of students as important in order to live in the interdependent world today.

Statement of the Problem

Global understanding is composed of global knowledge and positive global attitudes. The central purpose of the study is to determine the degree of global knowledge and global attitudes of selected American undergraduate students at O.S.U. and to determine the relationship between global knowledge and attitudes and selected demographic characteristics. The data may be used as base line data and this study can be replicated later in order to determine if students' global knowledge have increased and their global attitudes have become higher.

Research questions which have guided the study include: What is the current level of global knowledge of American seniors at O.S.U.? Is there a significant difference in the global knowledge and attitudes of students from selected colleges at O.S.U.? How does the global knowledge and attitudes of seniors compare with that of sophomores at O.S.U.?
Research Objectives

The objectives of this research are:

Objective 1.
To measure the level of global knowledge of selected college students at O.S.U..

Objective 2.
To assess the relationships between socio-demographic variables and global knowledge.

Objective 3.
To assess the global attitudes of selected college students at O.S.U..

Objective 4.
To assess the relationships between socio-demographic variables and global attitudes.

Assumptions

1. The students will respond to the items on the questionnaire honestly.
2. O.S.U. contributes to the development of higher global attitude scores and increased global knowledge in students.

Definitions of Terms

1. Global understanding, consists of cognitive and affective components (Barrows, Clark, & Klein, 1980). In this study, the cognitive component will be represented by global knowledge and the affective by global attitude.
2. **Global knowledge**, the cognitive component, refers to knowledge of current events and world concerns, such as energy depletion, the population, and the environment (Findlay, 1988).

3. **Global attitude**, the affective component, "refers to a combination of interest in world issues, perceptions of world issues as important...and certain self-perceptions of students" (Findlay, 1988, p. 11).

4. **Global perspective**, also includes cognitive and affective components. It consists of several elements, all of which are crucial. They include: perspective consciousness, "state of the planet" awareness, cross-cultural awareness, knowledge of global dynamics, and awareness of human choices (Hanvey, 1982).

5. **Worldmindedness**, an affective component, is "a frame of reference, or value orientation, favoring a world-view of the problems of humanity, with mankind, rather than the nationals of a particular country, as the primary reference group" (Sampson & Smith, 1957, p. 105).
CHAPTER II
REVIEW OF LITERATURE

This chapter examines research related to global changes and contexts, and global understanding. The latter focuses on global knowledge and global attitudes, the role of schools in promoting global understanding, and the importance of global understanding in home economics, business and engineering.

Global Changes and Context

The twentieth century has seen many changes in the world. In these years the earth has experienced two world wars, the invention of the car, microwave, and computer technology, and the tripling of the world's population (Corson, 1990). These experiences have changed life tremendously for individuals of all nations. Western civilization has also seen changes as it has lost some of its dominance in the world. This is illustrated by the fact that decolonization of less industrialized nations occurred rapidly during the years of 1914 and 1945. Western nations no longer control these lands. The rise of Japan as a world superpower in the realm of economics is another indicator of the deterioration of the dominance exhibited by Western nations (Anderson, 1982).

In the past couple of years there have been more changes in the world. In August of 1991 the super power of the Soviet Union dissolved. With this disintegration came many modifications to the world. For
example, the cold war officially ended. The United States defense budget has reflected these changes by reducing the amount of money available for this department. The creation of "new" nations has also formulated change in the world. After being part of the Soviet Union for 50 years, Estonia, Latvia and Lithuania have once again been recognized as individual nations since their cessation from the former Soviet Union. The destruction of the Berlin Wall, which occurred in November of 1989, is another historical event which has affected the former nations of East and West Germany, as well as the world. As these two nations have reunited there have been challenging times.

It is important to realize that these changes are not separate entities; they interrelate in a system of dynamic dependencies that eventually reflect on every citizen in the United States. The impact of this interrelationship is not immediate, however; therefore, individuals are not keenly aware of the need to develop the sophisticated skills necessary to understand and cope with these changes (Pickert, 1992, p. xvii).

Interdependence

The continual changes in the world are causing individuals to redefine their paradigms and view the world differently. The world is becoming more interdependent and interconnected (American Home Economics Association, 1990; Anderson, 1982; Backman, 1984; Blackburn, 1985; Burn, 1980; Czarra, 1985; Kniep, 1985; Naisbitt & Aburdene, 1990). "To a degree far greater than at any time in the past, the world is an integrated whole. This generalization holds up at every level" (Goodwin & Nacht, 1991, p. 113). The changes in other countries are not confined to affecting the people of that particular nation (American Home Economics Association, 1990). Changes in technology, society, and economics are known to affect almost every nation on earth (Bailey & Firebaugh, 1986). Politics (American Home Economics Association, 1990; Peterson, 1989),
ecology (Peterson, 1989), social priorities and conditions of nations are also known to affect other countries in the world (American Home Economics Association, 1990). For example, when the coup d'etat transpired in the former Soviet Union in August of 1991, the New York Stock Exchange and other stock markets of the world were affected by the surprise revolt.

Economic interdependence is a fact of life today. Many traditional national companies are expanding to the international market. For example, Ford, the American automobile company, manufactures some of their products in other nations (Czarra, 1985). There are many other examples of companies from around the world which have diversified and become international in nature. The United States is especially dependent upon other nations in the domain of economics. The following observations have been documented by Czarra (1985):

1. More than 6,000 U.S. companies have some operations abroad.
2. One-third of U.S. corporate profits come from international activities.
3. Four out of five new jobs in the U.S. are generated directly from foreign trade.
4. One-third of all U.S. corporations are foreign-based or foreign-owned.
5. Investment of foreigners in the U.S. is currently estimated at over $250 billion.
6. 70% of U.S. products face foreign competition (p. 19).

Further,

A highly integrated world economy means that business practices, legal systems, engineering tasks, and food production can no longer be viewed exclusively from a domestic perspective. They all are global issues (Goodwin & Nacht, 1991, p. 113).
International awareness and a proficiency in foreign languages are essential to the citizens of the United States if this nation is to survive economically (Peterson, 1989).

Interdependence in the world is also seen in the realm of ecological issues (American Home Economics Association, 1990; Blackburn, 1985; Peterson, 1989). Environmental interdependence is illustrated by the global links between the earth's natural systems of land, water, air and living matter. "Disturbance to any one of them can affect the others in complex and unexpected ways that can be distant in both space and time" (Corson, 1990, p. 2). Another example is as the population of the world increases and the demand of the earth's resources remains constant, global interdependence is reinforced (American Home Economics Association, 1990). Energy and food are examples of resources which cause nations to be interdependent as shortages or price changes affect the whole world (Corson, 1990). Timber, fish products, ores and minerals are some examples of limited natural resources which require management by nations to ensure that they last (Blackburn, 1985). The forests of the world are another example of ecological interdependence (Blackburn, 1985).

We have long known that forests help sustain the planet's oxygen level and its surface and subsurface water supplies. But we are now learning that forests also help maintain worldwide climate and precipitation patterns (Blackburn, 1985, p. 24). Global warming is expected to begin to melt polar ice caps causing an increase in ocean water. The people of several islands, such as Malta, are concerned that they may be submerged once this happens and are beginning to work on this problem.

The most urgent problems facing humankind cannot any longer be thought to stop at national borders: Population growth, disease, environmental degradation, arms races, terrorism - none of these can be perceived any longer as someone else's
problem or as ours alone. They are ours collectively (Goodwin & Nacht, 1991, p. 113).

Even the conception of national security as a purely military problem has lost much of its rationale. Fortress America is simply not a viable option. What good are so-called secure borders if nuclear fall-out from some third-party conflict half a world away decimates our own population, or if tropical deforestation and worldwide air pollution lead to global warming and inundation of our coastal cities? (Goodwin & Nacht, 1991, p. 113).

Cooperation among nations is critical to resolving the world's problems (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1991). Global warming, ozone depletion and the increasing population are some problems which demand world attention to slow their deadly effects. The people of the world must work together to ensure that finite resources are not depleted for future generations.

In order to work effectively with people from other countries one must have a basic understanding of and appreciation for their culture and background (Findlay, 1988). It is imperative, therefore, that people from all countries seek to understand the interrelated world.

Global Understanding

Scholars have suggested conceptual frameworks to explain global understanding. Hanvey (1982) proposed a framework for advancing a global perspective. A global perspective consists of several elements, all of which are crucial. These dimensions of a global perspective include: perspective consciousness, "state of the planet" awareness, cross-cultural awareness, knowledge of global dynamics, and awareness of human choices.

Perspective consciousness was defined by Hanvey as:

The recognition or awareness on the part of the individual that he or she has a view of the world that is not universally
shared, that this view of the world has been and continues to be shaped by influences that often escape conscious detection, and that others have views of the world that are profoundly different from one’s own (Hanvey, 1982, p. 162).

"State of the planet" awareness is the perception one possesses of the conditions and developments in the world, including emerging factors such as population growth. According to Hanvey, the majority of people acquire their information concerning the world through the media which oftentimes focuses on the sensational and promotes a distorted world view. Thus, schools need to clearly present the world scene so individuals may be better informed and appreciative of the diversity found in the world today.

Cross-cultural awareness is the understanding that diversity of ideas and practices exist and that differences do not indicate that one group of people are better than another. This dimension calls for individuals to see others as humans and then their ways will seem less peculiar. It is imperative that people see the world through the eyes of others.

The fourth dimension of Hanvey’s global perspective consists of knowledge of global dynamics. This is defined as:

Some modest comprehension of key traits and mechanisms of the world system, with emphasis on theories and concepts that may increase intelligent consciousness of global change (Hanvey, 1982, p. 165).

Knowledge of global dynamics calls for individuals to understand world problems and comprehend the promises made to change these problems.

Awareness of human choices has been defined by Hanvey as the understanding of the problems confronting individuals and the choices they make (Hanvey, 1982).

The elements of Hanvey’s global perspective can be classified to include aspects of global attitudes and global knowledge. Perspective consciousness and cross-cultural awareness can be placed in the category of self-perceptions and global attitudes because they deal with one’s beliefs. "State of the planet” awareness, knowledge of global dynamics, and
awareness of human choice can all be classified under global knowledge as knowledge is crucial in all of these. "State of the planet" awareness can also be categorized as a part of global attitudes and opinions because appreciation of diversity is an attitudinal aspect.

Barrows, Clark, and Klein (1981) in conjunction with the Educational Testing Service (ETS) tested a framework of global understanding which included cognitive, affective and foreign language components. However, after testing the framework on over 3000 undergraduate students they disregarded the language component of their framework.

**Global Knowledge and Global Attitudes**

"Global knowledge refers to knowledge of current affairs and worldwide problems, such as energy depletion, war, resource allocation and human rights" (Findlay, 1988, p. 12). The degree of global knowledge among college students has been found to be considerably low (Barrows, 1981; Woyach, n.d., 1987). A study carried out by the ETS indicated that the mean score of college seniors on a test which measures global knowledge was 50.5 out of 101 (Barrows, Clark & Klein, 1980). The conclusion which was drawn from this finding was that only

> A very small proportion of the students have the level of knowledge necessary for an adequate understanding of global situations and processes (Barrows, 1981, p. 135).

Another study conducted by Woyach (n.d., 1987) at Ohio State University, which utilized a condensed version of the ETS measure, determined that seniors were able to answer 59 percent of the questions correctly.

"Global attitude refers to a combination of interest in world issues, perceptions of world issues as important...and certain self-perceptions of students" (Findlay, 1988, p. 11). Prior research has examined worldminded
attitudes (O'Malley, 1983; Williams, 1988), as well as higher and lower global perspectives (attitudes) of students and teachers (Babich, 1986).

Global attitudes of college students have been found to be below the hoped or expected level as the following excerpt from the ETS study illustrates:

Attitude item responses obtained in the survey do indicate...that sizeable proportions of the three student populations have attitudes, feelings, and perceptions that are unenlightened or unproductive from the perspective of global understanding, and attitudes are important because they may serve as "filters" in future information acquisition as well as indicators of students' continuing behavioral postures regarding global issues (Barrows, 1981, p. 135).

Another study which examined the global attitudes of college students was conducted at Auburn University in Alabama. This study revealed student interest in the following world issues: nuclear and conventional arms proliferation, malnutrition and inadequate health care; denial of basic human rights; and depletion of natural resources. Further, it was found that the students were pro-human rights, anti-chauvinistic and anti-war. The students did not tend to favor world cooperation, and indifference in the realm of a world government was seen (Findlay, 1988). In another study, Christian college students were found to be less willing to accept a supranational authority and were less opposed to war than students at non-Christian colleges and universities (Peterson, 1989).

Sources of Global Knowledge and Global Attitudes

Attention to World News. Global knowledge consists of knowledge of current events and worldwide problems (Findlay, 1988). Attention to world news is one way to learn of such information. It has been determined that students who pay attention to world news possess significantly more international knowledge than those who do not (Woyach, n.d., 1987).
Further, that study revealed that attention to world news was the most significant influence on students' world knowledge (Woyach, n.d., 1987).

Sources of world news were also influential in determining the amount of global knowledge that students possess. A national study of university seniors by the ETS revealed that the reading of newspapers was related to global knowledge (Barrows, Clark & Klein, 1980).

The media variables that relate to high scores on the test are strongly weighted toward reading both in frequency of reading and the tendency to read national, international, and financial news" (Barrows, 1981, p. 63).

However, the frequency of watching news on television showed no such relation (Barrows, Clark & Klein, 1980).

Attention to international news through newspaper reading has also been found to be associated with more positive global attitudes on the Student Self-Perceptions Scale. In addition, "watching specials about foreign countries and cultures" has been found to be associated with more positive global attitudes (Barrows, 1981, p. 121). Research concerning a global perspective module also concluded that reading the international section of the newspaper and the frequency of watching international news on television were important predictors of more positive global attitudes in college students (Odhuno-Otieno, 1989).

Although attention to world news is important to increase one's global knowledge, not every student is observant to current events. One study found that approximately one-half of the college students in the sample read international news articles to learn of world events (Findlay, 1988). Further, one-third reported watching international news daily. Among these students, television was used as a source of information rather than a form of entertainment (Findlay, 1988). Research conducted at two Christian colleges revealed that the majority of the students at these two schools received most of their information regarding world events through non-print media. Few read international news (Peterson, 1989).
Other Sources. Curriculum has been found to be an important means to increasing global knowledge and promoting more positive global attitudes among students. A study conducted by Odhuno-Otieno (1989) determined that a global perspective module was valuable in increasing the level of knowledge concerning global issues. In this study, it was found that the number of treatment classes attended was the only variable tested which was a significant predictor of global knowledge in college students (Odhuno-Otieno, 1989). Further, in a study of college students’ global knowledge, those who remembered examining world and international problems in high school classes possessed more global knowledge than those who did not have such recollections (Woyach, n.d., 1987).

Curriculum is also associated with more positive global attitudes. Research conducted by Odhuno-Otieno (1989) determined that a global perspectives module was valuable in promoting more positive global attitudes in students. In this study, it was found that the number of treatment classes attended, along with the reading of international news from the newspaper and the frequency of watching international news on television were significant predictors of global attitudes of college students (Odhuno-Otieno, 1989).

No evidence from research indicates that the global attitudes of students change simply as a result of time spent at the university. However, certain college courses are more likely to foster global awareness in students than others (Findlay, 1988). One study found that students perceived courses such as international studies, geography, history, political science, anthropology, and economics as contributors to their global awareness. Yet, the students did not feel that courses in Slavic studies, journalism, archeology, literature, or environmental studies were important in aiding their international awareness (Findlay, 1988).

The research of Barrows (1981) revealed that students were not taking "potentially enlightening courses" which could increase their global
understanding (p. 137). The researchers were further disappointed by the report made by the students that discussions of global issues in class were rare and infrequent.

Fewer than one in five students reported such discussions occurring on a daily basis, two-thirds reported them as occurring less than once a week or one or two times a week, and more than one in ten reported that they never occur (Barrows, 1981, p. 137).

Research concerning other variables which enhance global perspectives in education has also been conducted. One such study has found that a moderate relationship exists between perceptions of an open classroom climate and levels of global knowledge in high school students (Blankenship, 1990). Further, on the Student Self-Perceptions Scale, developed by ETS, it was determined that college and high school global experiences were important predictors of global attitudes of diverse peoples and cultures among college seniors (Findlay, 1988).

**Individual Characteristics Associated with Global Knowledge and Global Attitudes**

Certain individual characteristics have been found to be associated with global knowledge and global attitudes. They include gender, age, academic level, academic major, grade point average, education of parents, international travel, foreign language competency, political attitudes, and race.

**Gender.** Gender has been found to make a difference in the level of global knowledge one possesses: males were found to answer more questions correctly concerning global knowledge than females (Barrows, 1981). Woyach (n.d., 1987) also found that men scored higher on a test of global knowledge than women.
Research involving secondary social studies teachers’ attitudes indicated that female teachers tended to be more worldminded than male teachers (Williams, 1988). On certain sub-scales of the Student Opinion Survey, developed by the ETS, women were found to possess higher attitudes. Barrows (1981) concluded that "women appear more anti-war than men" (p. 117). This finding was confirmed by Findlay (1988). Females were also found to be more anti-chauvinistic than men on the Student Opinion Scale. Further, female students were more interested in malnutrition and inadequate health care than males (Findlay, 1988).

However, on the Worldmindedness Scale, an attitude scale developed by Sampson and Smith (1957), no significant differences were found between men and women when it was tested on 103 women and 75 men.

Age. Age is another personal characteristic which has been found to be associated with one’s global knowledge. Senior college students who delayed graduation or began college later in life were found to possess more global knowledge than those seniors who were younger (Woyach, n.d., 1987). Age of teachers have also been found to be correlated with global education knowledge, as older teachers rated themselves more knowledgeable than younger teachers in this area (Thorpe, 1988).

Age is also associated with global attitudes. Home economics teachers who were older, graduated earlier and who had more teaching experience tended to hold higher global perspectives than younger and less experienced teachers (Babich, 1986). Further, older and more experienced social studies teachers were found to possess more worldminded attitudes than younger and less experienced social studies teachers (Williams, 1988).

Academic Level. Academic level has been found to be a significant factor in one’s global knowledge. In the ETS test of global knowledge among freshmen and seniors in college, the average score of freshmen students was 41.9 percent and the average score of seniors was 50.5 percent (Barrows, 1981). Similarly, an analogous study revealed that freshmen
Academic Major. Certain majors at universities have been found to be associated with more global knowledge than others. It is important to determine which academic majors contribute to global knowledge because "by understanding how college environments differ from each other, we may be better able to understand how the university can encourage international awareness among all students" (Woyach, n.d., 1987, p. 8). The ETS survey of global understanding among college students discovered that those students who majored in history, mathematics, and engineering possessed more global knowledge than other students. Business students scored slightly above the mean on a test of global knowledge. Students majoring in education, vocational/technical training, English, drama, and communications possessed the least amount of global knowledge (Barrows, Clark & Klein, 1980). These results were confirmed on a test of global knowledge in which the highest average scores on the survey were earned by students in humanities, mathematics, and physical sciences. The lowest scores came from those studying dental hygiene, pharmacy, social work, home economics, education and social and behavioral sciences (Woyach, n.d., 1987).

Grade Point Average (G.P.A.). Another individual characteristic which has been found to be associated with global knowledge is G.P.A. Students who earned a higher G.P.A. were more knowledgeable concerning global issues than students who earned a lower G.P.A. (Woyach, n.d., 1987). Correlations between global knowledge and aptitude measures used for college admission (Scholastic Aptitude Test and the American College Testing Program) were found, as well (Barrows, Clark, & Klein, 1981).

Education of Parents. Educational level of parents has also been found to influence students' global knowledge. Barrows (1981) discovered that the education of parents was highly correlated with tests of global
knowledge in students, although it appeared that the relationship weakened "the longer the student...(was) in college" (p. 63). Further, students whose mothers had at least some college education were found to possess greater global knowledge than those students whose mothers had not attended college (Woyach, n.d., 1987). Foreign travel of parents was also found to be associated with one's global knowledge (Woyach, n.d., 1987).

Administrators at higher education institutions were found to have higher worldminded attitudes if their parents had a college education (O'Malley, 1983). However, the education of parents was not found to correlate with more positive global attitudes in college students (Barrows, 1981).

**International Travel.** International travel can have a dramatic effect on individuals. It can broaden one's horizons, aid in self-understanding, give one an appreciation for other cultures and ideas, provide an appreciation of one's own language and culture, "raise one's level of sensitivity, tolerance, and empathy for the problems of others" (Goodwin & Nacht, 1991, p. 50) and provide cultural humility. As one faculty member who had the opportunity to travel abroad noted: "'most Americans assume everyone else wants to become an American. It is a sobering discovery to find they don't'" (Goodwin & Nacht, 1991, p. 52). Further, another individual succinctly stated the value of time spent in another culture "no amount of 'book learning' can substitute beyond a certain point for foreign experience" (Goodwin & Nacht, 1991, p. 46).

In addition, international travel has been associated with greater global knowledge in college students (Woyach, n.d., 1987). Barrows (1981) also found evidence "that seniors who traveled tended to do better on the test than seniors who have not" (p. 63). Foreign travel of teachers has been found to be correlated with their global knowledge, as those who had participated in such travel rated themselves more knowledgeable than those who had not traveled (Thorpe, 1988). However, extent of foreign travel was
not found to be related significantly to the global knowledge that college students possessed in a study testing the significance of a global perspective module on global knowledge and attitudes (Odhuno-Otieno, 1989).

Travel abroad also may increase international awareness and promote more positive global attitudes (Williams, 1988; Woyach, n.d., 1987). Studies have shown that individuals who have participated in international travel have a greater international awareness than those who have not had such travel (Woyach, n.d., 1987). Foreign travel was also found to furnish higher attitudes toward global issues among secondary social studies teachers (Williams, 1988). In the same study it was determined that travel of at least one cumulative month outside of the United States was related to teachers being more accepting of global curriculum goals and having greater worldmindedness than those who did not travel (Williams, 1988). Administrators who had contact with individuals from other nations tended to have higher worldminded attitudes than those who did not have any such contact (O'Malley, 1983). Conflicting results were reported in a study of Iowa home economics teachers (Babich, 1986). It was determined that the educator's global perspectives were unrelated to any cross-cultural or international experiences they may have had inside or outside of the United States (Babich, 1986).

**Foreign Language Competency.** Many teachers and lay individuals believe that the study of a foreign language is one way to increase an understanding of other peoples and cultures (Barrows, Clark & Klein, 1980). O'Malley's (1983) research found that the study of foreign languages influenced administrators' worldmindedness. In addition, the administrators felt that the study of foreign languages had increased their worldmindedness.

However, another study revealed that foreign language ability was not correlated with students' global attitudes (Barrows, 1981).
The affective component of global understanding is associated with foreign language proficiency and language learning history to a moderate degree. Thus, there may be a causal or contributory relationship between foreign language and affect, though neither its necessity nor direction is assured" (Barrows, 1981, p. 136).

In Findlay's (1988) research, senior students in college rated modern foreign languages as a low contributor to their global awareness.

**Other Individual Characteristics.** Political attitudes also play an important role in the global knowledge of individuals. In the ETS study of 3000 undergraduates Barrows, (1981) found that

Political attitudes in terms of left and right also had a consistent relationship to performance on the test among the three groups. The left and the right outscored the middle, the left achieving higher mean scores than the right (p. 63).

In the same study a strong correlation was found between students' general political attitude and global attitudes on the Student Opinion Survey. Those students who identified themselves to the left of the political spectrum responded "in a more aware or understanding direction" on the sub-scales of Chauvinism, World Government, Cooperation and War (Barrows, 1981, p. 121). On this same scale, Democrats or Independents were found to possess higher attitudes on the war and chauvinism scale in a study of college seniors (Findlay, 1988). Further, one's political orientation tends to determine one's worldmindedness as liberals are more likely to be worldminded than conservatives (O'Malley, 1983). The Worldmindedness Scale, developed by Sampson and Smith (1957), also found that "worldmindedness is negatively associated with political and economic conservatism" (p. 103).

Educators have recognized curriculum in the educational system as an important vehicle for increasing global understanding. As one faculty member from an institution of higher education noted: "Education is learning how to learn and this requires a worldwide compass" (Goodwin &
Nacht, 1991, p. 45). This worldwide compass ought to contain global knowledge and the development of more positive global attitudes as illustrated by the following quote:

In order to grasp the commonality of the world's inhabitants, students need to develop not only knowledge of other cultures but also attitudes for living interdependently (Kniep, 1985, p. 17).

**The Role of Schools**

Schools and universities have an excellent opportunity to encourage global understanding in students. Scholars have put forth ideas of possible goals for universities and colleges to work towards in emphasizing global education (Bruce, Podemski, and Anderson, 1991). The research has suggested several procedures to increase global understanding in students at universities and colleges. Core courses is one such way. As it is expected for every undergraduate to take these courses, it is a logical place to incorporate global issues and perspectives that can have an impact on every student (Bruce, Podemski, & Anderson, 1991; Pickert, 1992). Another way to encourage global understanding in students is to focus on adding an international perspective to every discipline in the university or college, and "to require all faculty to incorporate global objectives in their courses" (Bruce, Podemski, & Anderson, 1991, p. 23). Research has suggested possible ways to implement this suggestion (Pickert, 1992). Study abroad opportunities have also been proposed as a possible means to increase global understanding in students. Immersion in another culture can have many positive benefits for participants, such as improving foreign language skills, gaining new perspectives, and experiencing a new culture. Studying foreign languages has also been cited as a feasible way to increase global understanding in students (Pickert, 1992).
Many schools are working towards the goal of increased global understanding in students. For example, colleges and universities have developed comprehensive international education programs. Wheaton College in Southern Massachusetts has instituted a "Global Awareness Program". This program incorporates "study abroad opportunities, special lecture series, visiting faculty from the Third World,...administrative support to facilitate international exchanges of various kinds" (Goodwin & Nacht, 1991, p. 96) and faculty internships abroad with the goal of educating for "global citizenship" (Goodwin & Nacht, 1991, p. 94). Lewis and Clark College, outside of Portland, Oregon, has also instituted programs intended to provide students with international experience and knowledge.

General culture programs have been established in Ecuador, Greece, Japan, and Kenya, and as a result of faculty experiences in these countries courses have been introduced into the curriculum that otherwise would have been absent (Goodwin & Nacht, 1991, p. 101).

The results appear to be positive. "'We have changed the lives of more than half of our students and more than a quarter of our faculty through these programs,' one senior administrator asserted" (Goodwin & Nacht, 1991, p. 102).

Although global knowledge has been found to be low among students, one qualitative study found that students often encourage a high level of international awareness on campus. Sometimes their push for internationalizing their school is more than that of the faculty and administration, the latter of which is oftentimes more concerned with budgetary problems. The students are initiating such action because they realize that a "sophisticated knowledge of world affairs" will be essential to land a good position in the work-force when they graduate (Goodwin & Nacht, 1991, p. 62).
Oregon State University

Oregon State University (O.S.U.) expects that students graduating with a Bachelor's degree will possess global understanding. "Oregon State University graduates should...possess intellectual curiosity, understanding of diverse cultural heritages, and a proper regard for different values, ideas, and cultures" (O.S.U. General Catalog 1992-93, p. 15). O.S.U.'s goal in 1987 was to "broaden the university's international perspective and focus its activities" (Creating the Future: A Plan for Beginning the '90s, 1990, p. 26).

Objectives of O.S.U. in promoting international perspectives include:

a. Strengthen the international dimension of the university's curriculum.

b. Expand the international perspective of the university's faculty.

c. Increase students' global awareness and their interest in international educational experiences.

d. Enhance university services that support international activities.

e. Expand and strengthen the university's liaison with its international constituents.

f. Provide leadership and support throughout the State to international programs and services related to higher education (Creating the Future: A Plan for Beginning the '90s, 1990, p. 26).

Some major accomplishments have already been realized in the areas of global issues and cultural diversity. For example, faculty exchanges with higher education institutions in countries such as India and have been taking place. These exchanges may have an impact on the global perspectives of not only the university faculty, but also on the students. The general education requirement, or the Baccalaureate Core, put into effect in the fall of 1990, was also implemented in order to increase the global perspectives of students. "The Baccalaureate Core emphasizes
writing, creative thinking, cultural diversity, the arts, sciences, literature, life-long fitness, and global awareness" (O.S.U. General Catalog 1992-93, p. 15). In this core students are required to take a three credit course in each of the categories of cultural diversity and contemporary global issues (O.S.U. General Catalog 1992-93, p. 15).

The Importance of Global Understanding in Home Economics, Business and Engineering

Now Americans believe every discipline and career is affected by events around the world. This awareness has moved international topics from the academic ghettos of foreign language, area studies, and international relations to business, engineering, and many other fields (Pickert, 1992, p. 11).

Home Economics

Home economics professionals aim to raise the level of living and improve the quality of life of individuals and families.

Home economics is concerned with the perennial problems of families--nurturing human development, resource management, and feeding, clothing, and housing family members. Perennial problems exist across cultures, across time (Kister, 1990, p. 182)

The substance of home economics is international in that it applies to families around the globe. Peterat and Smith (1989) believe that the concepts of this field "are universal concepts and are also global concepts" (p. 35).

Home economics content is international by virtue of its focus on the family, a universal social unit. People live in families throughout the world. These families may differ in type, size, or form. They may live in different types of shelter, eat different foods, wear different clothing, earn their livings in different ways, and manage households differently. The basic needs of all people, however, are similar (Williams, 1990, p. 7).
Further, the idea of interdependence has been suggested to be at work in families throughout the world. "American families are influenced by and influence what happens in other cultures" (Kister, 1990, p. 180). Thus, for the reasons suggested above, it is important for professional home economists to possess global understanding. "Since we live and work in a global community, we need to understand the contexts within which the issues of homes and families exist" (Kister, 1990, p. 175).

The roots of home economics further suggest reason for professionals to possess global understanding.

Home economics has been historically an international movement and its ecological focus has encouraged considerations of interrelationships and interconnections between individuals, families, and nations (Peterat, 1989, p. 14).

Global knowledge is a component of global understanding.

Knowledge of global issues has been noted as critical for home economists. Specific aspects of the following global issues affect families: the environment, technology, agriculture and food, energy, economic, population, and governance (Murray, 1990). A recent example of the importance of global understanding has been addressed in family resource management research. The basic premise is that global understanding is crucial in order to empower individuals and families to make globally responsible decisions regarding resources and their uses.

Globally responsible actions of family resource managers serve to sustain or enhance (rather than place at risk) the quality of life for present and future generations of our planet's peoples. Actions of family resource managers at local levels are significant because world problems are often aggregates of local problems...home economists can uniquely impact on the development of globally responsible behaviors of individuals and families. Further, equipped with such global understandings and skills, home economists become catalysts in our society working with other professionals to enable their audiences to manage resources to meet world needs (Crawford, 1993, p.9).
As scholars have noted, home economists seek to meet the needs of individuals, families and society. One need of society is that of gaining a global perspective as it is "vital to strengthening families" (American Home Economics Association, 1990, p. 51). Global perspectives have been recognized as a critical need area by the American Home Economics Association (American Home Economics Association, 1990). Further, scholars believe that professional home economists can have a crucial impact on individuals and families in the interdependent world. "As our society moves toward globalization, home economics related professions have a vital role to play. The strength and enthusiasm by which we embrace this concept will affect the role our profession plays in our society and in our world in the future" (Crawford, 1993, p. 14).

Business

The introduction of an international dimension to business schools has come under great discussion and experimentation in implementation. It is crucial for those in business today to have a global perspective with the increase of international trade and investment (Goodwin & Nacht, 1991). In order to conduct business with individuals from different cultures and backgrounds global knowledge and more positive global attitudes are essential. Realizing the importance of global understanding, the American Assembly of Collegiate Schools of Business (AACSB) has mandated the development of a global perspective in the curriculum of Business Administration schools. Formerly, schools attempted to provide this through the field of international business, now, however, universities and colleges are seeking to "internationalize the entire discipline root and branch" (Goodwin & Nacht, 1991, p. 20). It is hoped that this action will provide students with the necessary skills, knowledge, and attitudes to survive in the competitive and interdependent world today.

Several devices are being used to reach the goal of a global curriculum, "including heavy subsidies to foreign research, negotiation of
attractive exchange relationships with foreign business schools, and even opening branches overseas" (Goodwin & Nacht, 1991, p. 20). The business community, also realizing the importance of a global perspective in future business people, has been known to provide funds to schools of business for this endeavor, especially for internationalizing the faculty (Goodwin & Nacht, 1991).

**Engineering**

An international dimension is critical for individuals in the field of engineering as well. New ideas and innovative approaches to the construction of dams, bridges, highways, power plants, and buildings are coming "increasingly from youthful overseas economies" (Goodwin & Nacht, 1991, p. 26). The United States "industry, civil engineering, and architecture must maintain close contact if they are to stay within sight of the future" (Goodwin & Nacht, 1991, p. 26).

Further, many nations are pulling ahead of the United States in "innumerable applications that are of great scientific and immense economic significance...in a variety of applied areas, such as aquaculture, robotics, superconductors, and parts of civil and mining engineering" (Goodwin & Nacht, 1991, p. 24). In these applied areas of science the "supposed universal culture of science" is not often followed. Thus, results are not published or even written down at all.

The implication of this situation for the United States in applied science around the world is that access can be gained to the frontiers of scientific development only through a process of human interaction among scientists that is far more complex and demanding than the attendance at meetings and consultations with the English-language literature that are said to be all that is required at the moment in pure science (Goodwin & Nacht, 1991, p. 25).

Global knowledge and more positive global attitudes can make the interaction with individuals from other nations easier, smoother, and more rewarding.
The only approach that yields effective access...is to establish over time with the foreign scientists a sense of community, familiarity, and cooperation for mutual benefit. This approach requires above all frequent exchange and the development of tolerance and understanding, including sympathy for the other culture and perhaps some attempt at least at language facility (Goodwin & Nacht, 1991, p. 26).

Positive outcomes result, with "a full sharing of information and research findings" (Goodwin & Nacht, 1991, p. 26). In fact, this type of interaction is essential as one individual who participated in such an exchange noted "If we didn’t follow this course, we would be nowhere" (Goodwin & Nacht, 1991, p. 26).

Engineering alumni have realized the importance of global knowledge.

One alumnus reported that when appointed head of a major oil company and required to suddenly reorganize the firm’s operations in Manila, he could not find the Philippines on the map. Another was working in Chile at the time of the Pinochet coup d’etat and had never heard of Allende (Goodwin & Nacht, 1991, p. 64).

As a result of such experiences, alumni have and are exerting pressure on colleges and universities to internationalize. The outcome is that the administration and faculty are recognizing that global knowledge may be as important information for students as is specific engineering techniques. Thus, the introduction of an international dimension to engineering schools has come under great discussion and experimentation in implementation (Goodwin & Nacht, 1991).

This chapter has covered a review of recent literature related to global changes and contexts, and global understanding. The latter has focused on global knowledge and global attitudes, the role of schools in promoting global understanding, and the importance of global understanding in home economics, business and engineering. Chapter III will focus on the methodology of the study.
CHAPTER III
METHODOLOGY

This chapter outlines the overall design of the study, a description of the population and sample, the development of the instrument, identification of the variables, identification of the hypotheses, analysis procedures, and methods utilized to collect the data.

Overall Design

This project was a descriptive study as well as a experimental study. Descriptive research is present oriented in nature, as it seeks to establish the current or prevailing condition (Courtney, 1988). The study focused on determining the present level of global knowledge and global attitudes of selected senior and sophomore students at Oregon State University (O.S.U.). This study was also experimental as it aspired to ascertain if a significant difference existed between the global knowledge and attitudes of students in selected colleges through testing hypotheses.

Population and Sample

The population in the study consisted of sophomore and senior students with majors in home economics, business, and engineering at O.S.U. According to the Office of Budgets and Planning at O.S.U., the number of the students in the population was 2,360 out of the 11,430 total
undergraduates in the fall of 1992. There were 130 registered sophomores in the College of Home Economics and Education and 262 seniors. In the College of Business there were 297 sophomores and 546 seniors. The College of Engineering had 432 sophomore and 546 senior students enrolled. From this population, a sample was selected from the three colleges.

The university registrar conducted a stratified random sample of the students in the population using the university computer. Address labels were also provided by the registrar for the students in the sample. Questionnaires were to be sent out to 200 people from each college (100 sophomores and 100 seniors), for a total of 600 subjects. Twenty-five percent of the target population was incorporated in the sample. One address was not complete and thus the questionnaire was never mailed to this student. Therefore, the number of students in the sample at mailing time was 599. Six students never received a copy of the questionnaire because their addresses had changed and no forwarding addresses were available. One individual was studying in Denmark during the Fall term; bringing the sample size to 592. A 50 percent return rate was expected.

The College of Engineering was chosen to be included in the study as past research indicated that engineering students scored among the highest groups on a test of global knowledge (Barrows, Clark & Klein, 1980). Business majors were chosen to be studied because they have been found to score slightly above average on a test of global knowledge (Barrows, Clark & Klein, 1980). Home Economics students have scored amongst the lowest in comparison to other colleges on a test of global understanding (Woyach, n.d., 1987) though Woyach’s research had a very small sample. It was of interest to the researcher to explore whether a larger sample size would make a difference in the relative position of home economics students to the other two majors in the measure of global knowledge and attitudes.
Instrumentation

The instrument, "The World Around Us: A Survey of Global Knowledge and Attitudes", was comprised of four parts and it took approximately 30 minutes to complete (see Appendix A). It was adapted from the Measures of Global Understanding. This measure was created by the Educational Testing Service (ETS) in 1980 to test global understanding of undergraduate students across the country. This scale was tested on over 3000 undergraduate students; seniors, freshmen, and two-year college students (Barrows, Clark & Klein, 1980).

Part A of the questionnaire was entitled the Student Self-Perceptions Scale. In this section, the students were asked to respond to 10 statements and decide if the sentence describes them. This self-report includes statements such as: "I make an effort to meet people from other countries" and "I am most comfortable with people from my own culture". The ETS survey originally divided the 10 items into three categories (interest, kinship, and concern), yet after analyzing the pretest and survey, it was found that the items were very "tightly intercorrelated psychologically as to render trivial distinctions among the three components" (Barrows, 1981, p. 106). Further, in the report concerning the ETS survey the authors state:

We view the scale as the best single, short measure of the affective component of global understanding inasmuch as it taps three rational components that can be summarized in a single score (Barrows, 1981, p. 106).

The reliability coefficient for this scale was determined to be .60 when tested on senior college students at Auburn University (Findlay, 1988).

Part B of the questionnaire, the Student Opinion Survey, consisted of 32 questions intended to measure the global attitudes of students. The values for the five point scale were as follows: 1 - Strongly agree, 2 - Agree, 3 - Indifferent, 4 - Disagree, and 5 - Strongly disagree. There are five subscales in this section: chauvinism (7 questions), cooperation (9 questions),
human rights (4 questions), war (6 questions), and world government (7 questions). Examples of questions from this section include: "There is no conceivable justification for war", "I'm for my country, right or wrong" and "It is our responsibility to do everything possible to prevent people from starving anywhere in the world". The internal consistency reliability coefficient for the total scale was determined to be .78 when tested on senior college students at Auburn University. "Alpha reliability coefficients for the five original factors ranged from .34 for the Human Rights scale to .83 for the War scale" (Findlay, 1988, p. 65). Although other studies which have utilized the Student Opinion Survey analyzed each sub-scale separately, in the present study the scale was analyzed as a whole. Barrows (1981) provides a rationale for this approach:

Scores obtained by summing responses to several attitude items are difficult to interpret, even though they are methodologically defensible and useful for relating attitudes to other variables (p. 135).

Part C of the questionnaire consisted of the Global Knowledge Test. It contained 27 multiple-choice items, most of which were adapted from the Test of Global Knowledge. This test originally included 101-items and had an established internal consistency reliability of .84 or greater when applied to three student groups (Barrows, 1981).

The length of the Test of Global Knowledge did not appear to be conducive to a high return rate. Therefore, the length of the test was reduced and updated to include 27-items based on contemporary global issues. Barrows (1981) identified thirteen different subject areas in the Test of Global Knowledge. Each of the 101 test items were categorized in the different subject areas and then questions were chosen from the following categories: population, energy and environment, economics, food and agriculture, health, human rights, state relations, race and ethnicity, and war. Point bi-serial information was available for each question from the ETS study. The point bi-serial for the questions range from .2215 to
.6512. Questions which fell in the range of .30 to .50 for the point bi-serial numbers were chosen to be incorporated in the present study.

Several of the questions needed to be updated since the original questionnaire was written in 1980 and areas of global knowledge are constantly changing. A committee of four professors from the colleges or departments of Home Economics, Business, Engineering, and International Research and Development at O.S.U. established content validity for the Global Knowledge Test. After receiving their comments the Global Knowledge Test was edited to reflect their recommendations. Examples of knowledge questions included those pertaining to the world population in 1992, a well-balanced typical meal in less industrialized countries, and the environmental alteration of the land.

Part D explored background and demographic information of the students. Questions concerning gender, age, academic level, academic major, grade point average (G.P.A.), educational level of parents, travel experience, foreign language competency, news acquisition habits and other socio-demographic conditions of the students were addressed. Questions pertaining to the degree that global issues were discussed in classes was asked and students were requested to identify those courses in which such discussion takes place.

Permission was obtained to use the questionnaire from Oregon State University's Committee for the Protection of Human Subjects and the U.S. Department of Health and Human Services (Appendix B).

Identification of Variables

Three dependent variables and nine independent variables were selected for the study (Table 1). The dependent variable of global knowledge was determined from the cumulative score from the Global Knowledge Test (Part C). There were two global attitude dependent
variables, a cumulative score from the Student Self-Perceptions Scale (Part A) and the cumulative score from the Student Opinion Survey (Part B).

Two measures of global attitude were included in the questionnaire as the scales measure different things. The Student Self-Perceptions Scale, "a type of measure used primarily in personality assessment was...(designed) to get at students' perceptions of themselves" (Barrows, 1981, p. 9). The Student Opinion Survey measured students' attitudes toward chauvinism, cooperation, human rights, war, and world government. The latter simply measures attitudes, while the former is a description of the actions which result from the attitudes of concern, interest, and kinship. As it is a self-report, the students are required to think more about themselves and how they view themselves in relation to the specific questions.

Every dependent variable was to be tested with the following nine independent variables: gender, age, academic level, academic major, G.P.A., education of parents, international travel, foreign language competency, and attention to world news. Other socio-demographic data in the questionnaire were intended to be used to describing the sample.

Hypotheses

The hypotheses were written in the null form since research has not been completed in each area and the researcher was not able to project all of the expected results.

Hypothesis 1.

a. There will be no difference in the global knowledge of males and females.
b. There will be no difference in the global attitudes of males and females.
Hypothesis 2.
   a. There will be no difference in the global knowledge of older and younger students.
   b. There will be no difference in the global attitudes of older and younger students.

Hypothesis 3.
   a. There will be no difference in the global knowledge of senior and sophomore students.
   b. There will be no difference in the global attitudes of senior and sophomore students.

Hypothesis 4.
   a. There will be no difference in the global knowledge of students studying in different majors.
   b. There will be no difference in the global attitudes of students studying in different majors.

Hypothesis 5.
   a. There will be no difference in the global knowledge of students who earn a higher G.P.A. and those who earn a lower G.P.A.
   b. There will be no difference in the global attitudes of students who earn a higher G.P.A. and those who earn a lower G.P.A.

Hypothesis 6.
   a. There will be no difference in the global knowledge of students whose parents have attended college and those whose parents have not attended college.
   b. There will be no difference in the global attitudes of students whose parents have attended college and those whose parents have not attended college.

Hypothesis 7.
   a. There will be no difference in the global knowledge of students who have participated in international travel and those who have not.
b. There will be no difference in the global attitudes of students who have participated in international travel and those who have not.

Hypothesis 8.

a. There will be no difference in the global knowledge of students with more foreign language competency and those with less foreign language competency.

b. There will be no difference in the global attitudes of students with more foreign language competency and those with less foreign language competency.

Hypothesis 9.

a. There will be no difference in the global knowledge of students who pay attention to world news and those who do not.

b. There will be no difference in the global attitudes of students who pay attention to world news and those who do not.
Table 1.
Sources of Information for Testing Hypotheses

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variables</th>
<th>G. Knowledge</th>
<th>Global Attitudes</th>
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<td></td>
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<td>(Part C)</td>
<td>(Part A)</td>
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<td></td>
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<td>Socio-demographic</td>
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<td>Variables</td>
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<td>H₀: $M_1 = M_2$</td>
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<td>2. &gt;= 3.0</td>
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<tr>
<td>Education of Father</td>
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<td>H₀: $M_1 = M_2$</td>
<td>H₀: $M_1 = M_2$</td>
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<tr>
<td>1. No college</td>
<td></td>
<td>H₀: $M_1 = M_2$</td>
<td>H₀: $M_1 = M_2$</td>
</tr>
<tr>
<td>2. Some college</td>
<td></td>
<td>H₀: $M_1 = M_2$</td>
<td>H₀: $M_1 = M_2$</td>
</tr>
<tr>
<td>Education of Mother</td>
<td></td>
<td>H₀: $M_1 = M_2$</td>
<td>H₀: $M_1 = M_2$</td>
</tr>
<tr>
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<td></td>
<td>H₀: $M_1 = M_2$</td>
<td>H₀: $M_1 = M_2$</td>
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<tr>
<td>2. Some college</td>
<td></td>
<td>H₀: $M_1 = M_2$</td>
<td>H₀: $M_1 = M_2$</td>
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</table>

Table 1 continued on the next page.
Table 1 continued.

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variables</th>
<th>G. Knowledge</th>
<th>Global Attitudes</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Part C</td>
<td>Part A</td>
</tr>
<tr>
<td>Socio-demographic</td>
<td></td>
<td></td>
<td></td>
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<td>Variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>International Travel</td>
<td></td>
<td>H₀: M₁ = M₂ =</td>
<td>H₀: M₁ = M₂ =</td>
</tr>
<tr>
<td>1. No Travel</td>
<td></td>
<td>M₃</td>
<td>M₃</td>
</tr>
<tr>
<td>2. &lt;= 4 Weeks</td>
<td></td>
<td>H₀: M₁ = M₂ =</td>
<td>M₃</td>
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<tr>
<td>3. &gt;= 5 Weeks</td>
<td></td>
<td>H₀: M₁ = M₂ =</td>
<td>M₃</td>
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<tr>
<td>Foreign Language</td>
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<td>H₀: M₁ = M₂ =</td>
<td></td>
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<tr>
<td>Competency</td>
<td></td>
<td>M₃</td>
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</tr>
<tr>
<td>1. None</td>
<td></td>
<td>H₀: M₁ = M₂ =</td>
<td></td>
</tr>
<tr>
<td>2. Some</td>
<td></td>
<td>M₃</td>
<td></td>
</tr>
<tr>
<td>3. Much</td>
<td></td>
<td>H₀: M₁ = M₂ =</td>
<td></td>
</tr>
<tr>
<td>International</td>
<td></td>
<td>H₀: M₁ = M₂</td>
<td></td>
</tr>
<tr>
<td>Section of Newspaper</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Does not Read</td>
<td></td>
<td>H₀: M₁ = M₂</td>
<td></td>
</tr>
<tr>
<td>2. Reads</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis Procedures

The data were analyzed using the SAS System software package. (SAS is a registered trademark of SAS Institute Inc., Cary, NC, USA.) This software is "a combination of a statistical package, a data base management system, and a high level programming language" (Cody & Smith, 1991, p. xvi). The statistical procedures for data analysis were selected to include frequency distributions, percentages, and summary information including
means, standard deviations, and ranges for descriptive information. The hypotheses were tested using t-tests and one-way analysis of variance (ANOVA). A 0.05 significance level was chosen as the criterion for rejection of the null hypotheses.

Data Collection

The data were collected through a self-administered questionnaire. A questionnaire (Appendix A), cover letter (see Appendix C), and an addressed and stamped envelope were mailed to the students in the sample. Each questionnaire was labeled with an identification number to ascertain which students had returned the questionnaire. After seven days, all the students were sent a follow-up postcard (see Appendix C) to thank those who had responded and remind those who had not yet completed the questionnaire to do so. Two weeks later another cover letter (see Appendix C) and questionnaire were sent to those who had not yet responded.

The data collection was conducted during the fall of 1992. The total number of returned questionnaires was 348 with a return rate of 58 percent. Non-American citizens were deleted from the sample as well as those questionnaires with insufficient data. Thirty-four questionnaires were excluded from analysis bringing the final number used for analysis to 314 (a 52 percent return rate). The number of returns from the College of Home Economics and Education numbered 52 sophomores and 56 seniors (Table 2). From the College of Business 38 sophomore and 51 senior students returned completed questionnaires. From the College of Engineering 56 sophomore and 61 senior students returned the questionnaires.
Table 2.

Number of Sophomores and Seniors in Sample from the Three Colleges

<table>
<thead>
<tr>
<th>College</th>
<th>Sophomores</th>
<th>Seniors</th>
<th>Total for College</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Economics &amp; Education</td>
<td>52</td>
<td>56</td>
<td>108</td>
</tr>
<tr>
<td>Business</td>
<td>38</td>
<td>51</td>
<td>89</td>
</tr>
<tr>
<td>Engineering</td>
<td>56</td>
<td>61</td>
<td>117</td>
</tr>
</tbody>
</table>

This chapter outlined the overall design of the study, a description of the population and sample, the development of the instrument, methods utilized to collect and analyze the data, and statistical analyses. Chapter IV will examine the results of the study.
CHAPTER IV
RESULTS

In this chapter a description of the sample, knowledge test and attitude scales, the results from the tests of hypotheses, and other findings will be addressed.

Description of Sample

"The World Around Us: A Survey of Global Knowledge and Attitudes" was completed by 348 students in selected majors at Oregon State University (O.S.U.). Non-American citizens were deleted from the sample as well as those questionnaires with insufficient data, leaving 314 usable questionnaires.

Nine independent variables were included in the data: gender, age, academic level, academic major, Grade Point Average (G.P.A.), educational level of parents, international travel, foreign language competency, and attention to world news. A summary of these variables is shown in Table 3 (pages 46-47).

Many questionnaires had missing values for certain variables. T-tests were conducted to determine if there were significant differences between those students who left questions blank and those who did not. It was determined that no significant differences existed, so mean substitution was employed if less than 10 percent of the responses were missing for any one scale. If more than 10 percent of the responses were missing the
respondent was not included in the sample for that scale. Mean substitutions were used for missing responses on the Student Self-Perceptions Scale, Student Opinion Survey, Global Knowledge Test, age variable, G.P.A. variable, father's education variable, mother's education variable, and foreign language variable.

**Gender.** There were 154 (49.0 percent) female respondents and 160 (51.0 percent) male respondents in the sample.

**Age.** The age of respondents were in the range between 18 and 44. The mean age was 21.82. The sample was divided into two age groups: those age 24 years or less (n=273; 86.9 percent) and those age 25 or greater (n=41; 13.1 percent).

**Academic Level.** Of the 314 respondents, 146 (46.5 percent) were officially registered as sophomores, and 168 (53.5 percent) were registered as seniors according to the Registrar's Office.

**Academic Major.** The number of students officially registered in majors in the College of Home Economics and Education (home economics students) was 108 (34.4 percent). The majors in the College of Business (business students) numbered 89 (28.3 percent) and in the College of Engineering (engineering students) 117 (37.3 percent) according to the records at the Registrar's Office.

**G.P.A.** The sample was divided into two G.P.A. groups: those who earn a higher G.P.A. (3.0 and above) and those who earn a lower G.P.A. (2.9 or below). There were 180 (57.3 percent) students who reported their approximate college G.P.A. to be in the higher category. The number of students reporting a lower G.P.A. was 134 (42.7 percent). The mean G.P.A. was between 2.5 and 2.9.

**Educational Level of Parents.** The sample was divided into four groups concerning their parents' education: fathers who did not attend college, fathers who did attend college, mothers who did not attend college, and mothers who did attend college. Fathers who did not attend college
numbered 69 (22.0 percent) and fathers who had attended college 245 (78.0 percent). There were 78 (24.9 percent) of the students whose mothers did not attend college and 235 (75.1 percent) students whose mothers had attended college.

**International Travel.** There were 64 (20.4 percent) students who had not spent any time in another country. The sample also consisted of 105 (33.4 percent) respondents who had spent four weeks or less traveling internationally and 145 (46.2 percent) spent five weeks or more traveling internationally. Of those who had traveled internationally, the five countries or areas visited most frequently by students included: Canada (n=219, 70.2 percent), Mexico (n=120, 38.5 percent), Europe (n=71, 22.8 percent), the British Isles (n=26, 8.3 percent) and the Caribbean (n=23, 7.4 percent). The range of weeks visited at each of the above countries or areas was from one to 52 (one year) in Canada, one to 28 (seven months) in Mexico, one to 208 (four years) in Europe, one to 26 (six and a half months) in the British Isles, and one to eight weeks (two months) in the Caribbean.

There were five (1.6 percent) students in the sample who had participated in an organized summer-abroad program or year-abroad program through O.S.U. Of the 314 respondents, seven (2.2 percent) reported that they have been in the Peace Corps or participated in other programs involving service abroad. Further, 20 (6.4 percent) reported that they have traveled abroad on an educational study tour. Of these, nine (45.0 percent) traveled for less than one month on such a tour, eight (40.0 percent) reported having traveled for two to three months, two (10 percent) reported having traveled for four to five months, and one (5 percent) reported having traveled for more than five months on such a study tour.

**Foreign Language Competency.** Competency was defined as understanding, reading, writing, or speaking one foreign language. One point was given for each of the above in each language and a score was derived by combining the points (an individual who could understand, read,
write, and speak one language received a score of four). The sample was divided into three groups for the variable of foreign language competency: those who have no competency, those who have some foreign language competency (a score of one to four) and those who have much foreign language competency (a score of five or more). The number of students who have no foreign language competency numbered 106 (33.9 percent), those who have some competency numbered 181 (57.8 percent) and those with much foreign language competency numbered 26 (8.3 percent).

Attention to World News. The number of students who read the international section of the newspaper numbered 181 (58.2 percent), and the number who do not read this section were 130 (41.8 percent).

Television was the most reported source of news for students in the sample; 131 (42.0 percent) considered it to be their main source of news. The newspaper was the next most frequent source of news with 100 (32.1 percent) using it to learn of current events. Forty-one (13.1 percent) students used a combination of sources. Radio was employed by 26 (8.3 percent) to stay attuned to current events; other methods were used by 10 students (3.2 percent). Four (1.3 percent) used news magazines to stay informed of world events.

For the variable of frequency of watching news on television, students were divided into two groups: those who watch it three or more times during a week and those who watch it two times or less a week. The number of students who watched it three or more times a week was 129 (41.2 percent) and those who watched news on television less than this was 184 (58.8 percent).

There were seven (2.3 percent) students who reported that they never read the newspaper. Of the 304 (97.7 percent) other students, when they read the newspaper the five most frequently read sections of the newspaper included: the local news (n=234, 77.0 percent), national news (n=219, 72.0
percent), state news (n=193, 63.5 percent), international news (n=181, 59.5 percent), and sports (n=168, 55.3 percent).

Of the respondents, 65 (20.9 percent) reported that they regularly read a weekly news-magazine. Of these, 31 (47.7 percent) read Time, 24 (36.9 percent) read Newsweek, 12 (18.5 percent) read U.S. News and World Report, 12 (18.5 percent) marked the choice of "other", and six (9.2 percent) read Business Week. Some of the 65 students reported that they regularly read more than one news-magazine.
Table 3.
Background Characteristics of the Sample

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Total N</th>
<th>Subgroup n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>314</td>
<td>154</td>
<td>49.0</td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td>160</td>
<td>51.0</td>
</tr>
<tr>
<td>Males</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>314</td>
<td>273</td>
<td>86.9</td>
</tr>
<tr>
<td>24 or less</td>
<td></td>
<td>41</td>
<td>13.1</td>
</tr>
<tr>
<td>25 or more</td>
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<td></td>
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</tr>
<tr>
<td>Academic Level</td>
<td>314</td>
<td>146</td>
<td>46.5</td>
</tr>
<tr>
<td>Sophomores</td>
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<td>168</td>
<td>53.5</td>
</tr>
<tr>
<td>Seniors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Major</td>
<td>314</td>
<td>108</td>
<td>34.4</td>
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<td>89</td>
<td>28.3</td>
</tr>
<tr>
<td>Business</td>
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<td>117</td>
<td>37.3</td>
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<td>Engineering</td>
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<td></td>
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<tr>
<td>G.P.A.</td>
<td>314</td>
<td>134</td>
<td>42.7</td>
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<tr>
<td>2.9 or less</td>
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<td>180</td>
<td>57.3</td>
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<td>3.0 or greater</td>
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<td>Father's Education</td>
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<td>245</td>
<td>78.0</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mother's Education</td>
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<td>24.9</td>
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<td>75.1</td>
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<tr>
<td>International Travel</td>
<td>314</td>
<td>64</td>
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<td>33.4</td>
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<td>4 weeks or less</td>
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<td>145</td>
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<tr>
<td>5 weeks or more</td>
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</tr>
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Table 3 continued on the next page.
Table 3 continued.

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Total N</th>
<th>Subgroup n</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Foreign Language Competency</td>
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<td></td>
</tr>
<tr>
<td>None</td>
<td>106</td>
<td>33.9</td>
<td></td>
</tr>
<tr>
<td>Some</td>
<td>181</td>
<td>57.8</td>
<td></td>
</tr>
<tr>
<td>Much</td>
<td>26</td>
<td>8.3</td>
<td></td>
</tr>
<tr>
<td>Read International Section of Newspaper</td>
<td>311</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does not read</td>
<td>130</td>
<td>41.8</td>
<td></td>
</tr>
<tr>
<td>Reads</td>
<td>181</td>
<td>58.2</td>
<td></td>
</tr>
</tbody>
</table>

Other Demographic Information. The sample was overwhelmingly comprised of Caucasian students (n=281; 90.1 percent). There were 21 Asian-Americans in the sample (6.7 percent), four Native Americans (1.3 percent), two (0.6 percent) Mexican-Americans, two (0.6 percent) Hispanics, and two (0.6 percent) who marked the choice of "other". Further, 292 (93.3 percent) respondents were born in North America, ten (3.2 percent) in Asia, four (1.3 percent) in the South Pacific, three (1.0 percent) marked the choice of "other", two (0.6 percent) in Europe, one (0.3 percent) in Central America, and one (0.6 percent) in South America. Of those not born in the United States, the age at which they came to this country ranged from two to 32 years. The political attitudes reported by the students were distributed among the three choices. Conservatives numbered 123 (39.4 percent), liberals 78 (25.0 percent) and those with no preference 111 (35.6 percent).

Close to half of the sample reported that international visitors had stayed in their homes (n=139; 44.6 percent). Of these, 59 (42.4 percent) reported that the visitor(s) stayed for less than one month, 36 (25.9 percent) reported that they stayed for one to three months, 11 (7.9 percent) reported
that they stayed for three to six months, 21 (15.1 percent) reported that they stayed for six to 12 months, and 11 (7.9 percent) reported that the visitor(s) stayed for more than 12 months. The number of students reported having attended lectures, workshops, or conferences on other cultures or international issues was 68 (21.9 percent). In addition, 53 (17.0 percent) of the sample reported having attended cultural dinners, shows, or presentations at O.S.U. Of those surveyed, 104 (33.4 percent) of the students reported that they study or discuss world problems or issues once a week or more in their college classes, and 207 (66.6 percent) reported that such things occur less than once a week in their classes. Of those who reported such discussions or studies, 90 (32.1 percent) reported that they occur in liberal arts classes, 47 (16.8 percent) in home economics classes, 45 (16.1 percent) in business classes, 26 (9.3 percent) in "other" classes, and 15 (5.4 percent) in engineering classes. Finally, 108 (34.6 percent) reported that they have taken a class in the Baccalaureate Core which deals with Cultural Diversity and 103 (33.1 percent) reported that they have taken a Global Perspectives class from the core.

The Global Knowledge Test and Global Attitude Scales

An objective of the study was to examine the influence of socio-demographic variables on global knowledge and global attitudes. To determine whether there were significant differences in the level of global knowledge and global attitudes, by socio-demographic variables, all hypotheses were tested using t-tests or one-way analysis of variance. Interaction effects were tested on the following variables: age and academic level, gender and academic major, and travel and time abroad. No significant interactions were found.

The Global Knowledge Test (Part C) consisted of 27-items. Each item was written in the form of a multiple choice question. A cumulative score
was tabulated for each correct response. The highest possible score was 27. The scores of those sampled ranged from six (22 percent) to 27 (100 percent). The mean scores for the sub-groups on the Global Knowledge Test were 13.99 (52 percent) for home economics sophomores (Table 4), 15.54 (58 percent) for home economics seniors, 14.33 (53 percent) for business sophomores, 16.25 (60 percent) for business seniors, 16.54 (61 percent) for engineering sophomores, and 18.08 (67 percent) for engineering seniors. This finding is similar to that of Barrows (1981) and Woyach (n.d., 1987), both of whom found a similar rank order of academic majors on the Test of Global Knowledge.

There were two scales used to measure global attitudes among students. The first was the Student Self-Perceptions Scale (Part A). The students were asked to respond to 10 statements and decide if it described them. The second test of global attitude consisted of 32 Likert-type questions (Part B), entitled the Student Opinion Scale. A cumulative score for each was determined. Total possible for Part A was 10 and total for Part B was 160. The scores of those sampled ranged from zero (0 percent) to ten (100 percent) on the Student Self-Perceptions Scale, and 52 (33 percent) to 146 (91 percent) on the Student Opinion Survey.

The mean scores for the sub-groups on the Students Self-Perceptions Survey were 6.69 (67 percent) for home economics sophomores (Table 4), 6.86 (69 percent) for home economics seniors, 7.21 (72 percent) for business sophomores, 6.31 (63 percent) for business seniors, 6.50 (65 percent) for engineering sophomores, and 5.86 (59 percent) for engineering seniors.

The mean scores for the sub-groups on the Student Opinion Survey were 106.31 (66 percent) for home economics sophomores (Table 4), 108.99 (68 percent) for home economics seniors, 106.77 (67 percent) for business sophomores, 99.63 (62 percent) for business seniors, 102.30 (64 percent) for engineering sophomores, and 99.07 (62 percent) for engineering seniors.
Table 4.
Mean Scores of each sub-group for the Global Knowledge Test, Student Self-Perceptions Scale, and Student Opinion Survey

<table>
<thead>
<tr>
<th>Sub-Group</th>
<th>Global Knowledge (27)</th>
<th>Self-Perceptions (10)</th>
<th>Opinion Survey (160)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Economics Sophomores</td>
<td>13.99&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6.69&lt;sup&gt;b&lt;/sup&gt;</td>
<td>106.31&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Home Economics Seniors</td>
<td>15.54&lt;sup&gt;c&lt;/sup&gt;</td>
<td>6.86&lt;sup&gt;d&lt;/sup&gt;</td>
<td>108.99&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td>Business Sophomores</td>
<td>14.33&lt;sup&gt;e&lt;/sup&gt;</td>
<td>7.21&lt;sup&gt;e&lt;/sup&gt;</td>
<td>106.77&lt;sup&gt;f&lt;/sup&gt;</td>
</tr>
<tr>
<td>Business Seniors</td>
<td>16.25&lt;sup&gt;g&lt;/sup&gt;</td>
<td>6.31&lt;sup&gt;a&lt;/sup&gt;</td>
<td>99.63&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Engineering Sophomores</td>
<td>16.54&lt;sup&gt;e&lt;/sup&gt;</td>
<td>6.50&lt;sup&gt;c&lt;/sup&gt;</td>
<td>102.30&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Engineering Seniors</td>
<td>18.08&lt;sup&gt;h&lt;/sup&gt;</td>
<td>5.86&lt;sup&gt;h&lt;/sup&gt;</td>
<td>99.07&lt;sup&gt;i&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Notes.  
<sup>a</sup>n = 51.  <sup>b</sup>n = 52.  <sup>c</sup>n = 55.  <sup>d</sup>n = 56.  <sup>e</sup>n = 37.  <sup>f</sup>n = 38.  
<sup>g</sup>n = 49.  <sup>h</sup>n = 60.  <sup>i</sup>n = 61.

Internal consistency reliabilities were calculated using Cronbach’s Alpha Coefficient. The reliability was determined to be .69 on the Global Knowledge Test, .65 on the Student Self-Perceptions Scale, and .88 on the Student Opinion Survey.

Tests of Hypotheses

All hypotheses were tested using t-tests or one-way analysis of variance (ANOVA). A 0.05 significance level was chosen as the criterion for
rejection of the null hypotheses. As there was a highly significant difference between the sophomore and senior groups in the realm of global knowledge (Hypothesis 3, Table 7) each hypothesis was analyzed for the group as a whole, the sophomore sub-sample, and the senior sub-sample.

**Gender**

Null Hypothesis 1a. There is no difference in the global knowledge of males and females.

A significant difference was found in the level of global knowledge by gender (Table 5). Null hypothesis 1a was rejected at the .001 significance level. Males scored higher ($M=16.92$) than females ($M=14.90$) on the Global Knowledge Test. Previous research also found that men were able to answer more global knowledge questions correctly than women (Barrows, 1981; Woyach, n.d., 1987).

There was also a significant difference in the global knowledge of males and females in the sub-sample of sophomore students at the .01 significance level (Table 5). Males scored higher ($M=15.93$) than females ($M=14.43$) on the test. In the sub-sample of senior students a significant difference was also found between males and females at the .001 significance level. Again, males scored higher ($M=17.56$) than females ($M=15.46$) on the Global Knowledge Test.

Null Hypothesis 1b. There is no difference in the global attitudes of males and females.

A significant difference was found in the global attitudes of males and females on both attitude scales (Table 5). Null hypothesis 1b was rejected at the .01 significance level. Females had higher attitudes ($M=6.89$) than males ($M=6.18$) on the Student Self-Perceptions Scale ($p<.01$) and on the Student Opinion Survey (Females $M=106.40$, Males $M=100.98$; $p<.01$). Williams (1988) came to a similar conclusion: female social studies teachers were more world-minded than males.
There were also significant differences in the global attitudes of males and females in the sub-sample of sophomore students at the .05 significance level (Table 5). Females possessed higher global attitudes scores ($M=7.13$) than males ($M=6.25$) on the Student Self-Perceptions Scale. There was no significant difference between men and women sophomore students on the Student Opinion Survey. In the senior sub-sample, there was no significant difference between men and women on the Student Self-Perceptions Scale; however, there was a significant difference on the Student Opinion Survey at the .01 significance level. Females possessed higher global attitudes scores ($M=106.10$) than males ($M=99.94$) on this scale.
Table 5.
Independent variable of Gender: Summary Results of Null Hypothesis 1a and 1b

<table>
<thead>
<tr>
<th>Gender</th>
<th>Female</th>
<th></th>
<th></th>
<th>Male</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>SD</td>
<td>Means</td>
<td>SD</td>
<td>F</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>2.99</td>
<td>16.92</td>
<td>3.50</td>
<td>29.47***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>2.91</td>
<td>15.93</td>
<td>3.18</td>
<td>8.66**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>3.00</td>
<td>17.56</td>
<td>3.56</td>
<td>15.81***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>2.16</td>
<td>6.18</td>
<td>2.17</td>
<td>8.31**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>2.27</td>
<td>6.25</td>
<td>1.90</td>
<td>6.15*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e</td>
<td>2.00</td>
<td>6.13</td>
<td>2.34</td>
<td>1.87</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f</td>
<td>14.21</td>
<td>100.98</td>
<td>17.33</td>
<td>9.15**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g</td>
<td>14.98</td>
<td>102.57</td>
<td>16.61</td>
<td>2.41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h</td>
<td>13.36</td>
<td>99.94</td>
<td>17.79</td>
<td>6.03**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

39. \( n = 157 \). 40. \( n = 62 \). 41. \( n = 95 \).

59. \( n = 63 \). 50. \( n = 154 \). 51. \( n = 83 \).

39. \( n = 157 \). 40. \( n = 62 \). 41. \( n = 95 \).

There is no difference in the global knowledge of older and younger students.

The data presented in Table 6 indicate that there was a significant difference in the level of global knowledge of older and younger students (p<.01). Those students who were age 25 and older scored significantly higher on the Global Knowledge Test (M=17.19) than those who were less
than 24 years old (M=15.74). Null hypothesis 2a was rejected at the .01 significance level. Woyach (n.d., 1987) also found that older students scored higher on a test of global knowledge than younger students.

There were no significant differences in the global knowledge of older and younger students in the sub-samples of sophomore and senior students (Table 6).

Null Hypothesis 2b. There is no difference in the global attitudes of older and younger students.

A significance difference was found in the global attitudes of older and younger students on the Student Self-Perceptions Scale, but not the Student Opinion Survey (Table 6). On the Student Self-Perceptions Scale, null hypothesis 2b was rejected at the .05 significance level. Those students who were age 25 or older reported higher global attitudes scores (M=7.17) than those less than 24 years of age (M=6.43). This supports the research of Babich (1986) and Williams (1988), both of whom found that older teachers tend to have higher global perspectives or worldminded attitudes than younger teachers.

There were no significant differences in the global attitudes of older and younger students in the sophomore student sub-sample on both the Student Self-Perceptions Scale and the Student Opinion Survey (Table 6). There was a significant difference on the Student Self-Perceptions Scale in the senior sub-sample at the .05 significance level. Those students who were age 25 or older reported higher attitudes (M=7.22) than those less than 24 years of age (M=6.12). No difference was found on the Student Opinion Survey for the senior sub-sample.
Table 6.

Independent Variable of Age: Summary Results of Null Hypothesis 2a and 2b

<table>
<thead>
<tr>
<th>Dependent Variables (Total Possible Score)</th>
<th>Younger Students&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Older Students&lt;sup&gt;b&lt;/sup&gt;</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>SD</td>
<td>Means</td>
</tr>
<tr>
<td><strong>Global Knowledge Test (27)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total for N</strong></td>
<td>15.74&lt;sup&gt;c&lt;/sup&gt;</td>
<td>3.33</td>
<td>17.19&lt;sup&gt;f&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Sophomores</strong></td>
<td>15.03&lt;sup&gt;d&lt;/sup&gt;</td>
<td>3.11</td>
<td>15.75&lt;sup&gt;g&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Seniors</strong></td>
<td>16.47&lt;sup&gt;e&lt;/sup&gt;</td>
<td>3.40</td>
<td>17.60&lt;sup&gt;h&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Self-Perceptions Scale (10)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total for N</strong></td>
<td>6.43&lt;sup&gt;i&lt;/sup&gt;</td>
<td>2.17</td>
<td>7.17&lt;sup&gt;k&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Sophomores</strong></td>
<td>6.74&lt;sup&gt;j&lt;/sup&gt;</td>
<td>2.16</td>
<td>7.00&lt;sup&gt;l&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Seniors</strong></td>
<td>6.12&lt;sup&gt;d&lt;/sup&gt;</td>
<td>2.14</td>
<td>7.22&lt;sup&gt;m&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Opinion Survey (160)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total for N</strong></td>
<td>103.12&lt;sup&gt;n&lt;/sup&gt;</td>
<td>15.97</td>
<td>107.10&lt;sup&gt;k&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Sophomores</strong></td>
<td>104.66&lt;sup&gt;i&lt;/sup&gt;</td>
<td>15.57</td>
<td>108.44&lt;sup&gt;l&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Seniors</strong></td>
<td>101.56&lt;sup&gt;j&lt;/sup&gt;</td>
<td>16.28</td>
<td>106.72&lt;sup&gt;m&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

**Notes.**

<sup>a</sup>Those students aged 24 or less.
<sup>b</sup>Those students aged 25 or greater.
<sup>c</sup>n = 268. <sup>d</sup>n = 135. <sup>e</sup>n = 133. <sup>f</sup>n = 40. <sup>g</sup>n = 9. <sup>h</sup>n = 31.
<sup>i</sup>n = 271. <sup>j</sup>n = 136. <sup>k</sup>n = 41. <sup>l</sup>n = 137. <sup>m</sup>n = 32. <sup>n</sup>n = 273.
<sup>*</sup>p<.05. **p<.01.

**Academic level**

Null Hypothesis 3a. There is no difference in the global knowledge of senior and sophomore students.

A highly significant difference was found in the level of global knowledge by academic level (Table 7). Null hypothesis 3a was rejected at the .001 significance level. Senior students scored higher ($M=16.68$) than
sophomore students (M=15.07) on the Global Knowledge Test. This finding supports the research of Barrows (1981) and Woyach (n.d., 1987), both of whom found that college seniors scored higher on a test of global knowledge than college freshmen.

Null Hypothesis 3b. There is no difference in the global attitudes of senior and sophomore students.

No significant differences were found in the global attitudes of senior and sophomore students on both attitude scales (Table 7). Null hypothesis 3b failed to be rejected at the .05 significance level.

Table 7.

Independent Variable of Academic Level: Summary Results of Null Hypothesis 3a and 3b

<table>
<thead>
<tr>
<th>Dependent Variables (Total Possible Score)</th>
<th>Sophomores</th>
<th>Seniors</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>SD</td>
<td>Means</td>
</tr>
<tr>
<td>Global Knowledge Test (27)</td>
<td>15.07a</td>
<td>3.11</td>
<td>16.68b</td>
</tr>
<tr>
<td>Self-Perceptions Scale (10)</td>
<td>6.75c</td>
<td>2.16</td>
<td>6.33d</td>
</tr>
<tr>
<td>Opinion Survey (160)</td>
<td>104.89e</td>
<td>15.78</td>
<td>102.54f</td>
</tr>
</tbody>
</table>

Notes.  
^a^n = 144. ^b^n = 164. ^c^n = 145. ^d^n = 167. ^e^n = 146. ^f^n = 168. ***p<.001.

Academic Major

Null Hypothesis 4a. There is no difference in the global knowledge of students enrolled in majors from three colleges.

The data presented in Table 8 indicate that there is a significant difference in the level of global knowledge between academic majors (p<.01). Using a Duncan's multiple-range test for analysis of variance, it was
determined that engineering students scored significantly higher on the Global Knowledge Test (M=17.34) than business (M=15.43) and home economics students (M=14.79). Null hypothesis 4a was rejected at the .01 significance level. Previous research supports these findings: students majoring in engineering scored among the highest on a test of global knowledge, business students slightly above the average (Barrows, Clark & Klein, 1980), and home economics students had one of the lowest scores (Woyach, n.d., 1987).

There was a significant difference in the global knowledge of students enrolled in majors from three colleges in the sub-sample of sophomore students at the .05 significance level (Table 8). Engineering students scored significantly higher on the Global Knowledge Test (M=16.54) than business (M=14.33) and home economics students (M=13.99). There was a significant difference in the global knowledge of students enrolled in majors from three colleges in the sub-sample of senior students at the .05 significance level, as well. Engineering students scored significantly higher on the Global Knowledge Test (M=18.08) than business (M=16.25) and home economics students (M=15.54).

Null Hypothesis 4b. There is no difference in the global attitudes of students enrolled in majors from three colleges.

There was no significant difference in the global attitudes of home economics, business and engineering students on the Student Self-Perceptions Scale. However, there was a significant difference on the Student Opinion Survey at the .01 significance level (Table 8). Using a Duncan's multiple-range test for analysis of variance it was determined that home economics students possess significantly higher global attitudes scores (M=107.70) than engineering students (M=100.62). There were no significant differences between home economics and business students and business and engineering students. On the Student Opinion Survey, null hypothesis 4b was rejected at the .01 significance level.
There were no significant differences in the global attitudes of students with majors in the colleges of Home Economics and Education, Business, and Engineering in the sub-sample of sophomore students on both the Student Self-Perceptions Scale and the Student Opinion Survey (Table 8). However, there were significant differences in the global attitudes of students in the three colleges for the sub-sample of senior students on both scales. On the Student Self-Perceptions Scale, home economics students scored significantly higher (M=6.86) than engineering students (M=5.86) at the .05 significance level. There were no significant differences between home economics and business students and business and engineering students on the Student Self-Perceptions Scale. There was also a significant difference in the global attitudes of students in different colleges on the Student Opinion Survey at the .05 significance level. Home economics students scored significantly higher (M=108.99) than business (M=99.63) and engineering students (M=99.07). There was no significant difference between business and engineering students.
Table 8.
Independent Variable of Academic Major: Summary Results of Null Hypothesis 4a and 4b

<table>
<thead>
<tr>
<th>Dependent Variables (Total Possible Score)</th>
<th>Home Economics</th>
<th>Business</th>
<th>Engineering</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>SD</td>
<td>Means</td>
<td>SD</td>
</tr>
<tr>
<td>Global Knowledge Test (27)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>14.79&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.18</td>
<td>15.43&lt;sup&gt;d&lt;/sup&gt;</td>
<td>3.39</td>
</tr>
<tr>
<td>Sophomores</td>
<td>13.99&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.14</td>
<td>14.33&lt;sup&gt;e&lt;/sup&gt;</td>
<td>2.86</td>
</tr>
<tr>
<td>Seniors</td>
<td>15.54&lt;sup&gt;c&lt;/sup&gt;</td>
<td>3.06</td>
<td>16.25&lt;sup&gt;f&lt;/sup&gt;</td>
<td>3.54</td>
</tr>
<tr>
<td>Self-Perceptions Scale (10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>6.78&lt;sup&gt;j&lt;/sup&gt;</td>
<td>2.19</td>
<td>6.69&lt;sup&gt;l&lt;/sup&gt;</td>
<td>2.12</td>
</tr>
<tr>
<td>Sophomores</td>
<td>6.69&lt;sup&gt;k&lt;/sup&gt;</td>
<td>2.26</td>
<td>7.21&lt;sup&gt;e&lt;/sup&gt;</td>
<td>1.97</td>
</tr>
<tr>
<td>Seniors</td>
<td>6.86&lt;sup&gt;h&lt;/sup&gt;</td>
<td>2.14</td>
<td>6.31&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.17</td>
</tr>
<tr>
<td>Opinion Survey (160)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>107.70&lt;sup&gt;i&lt;/sup&gt;</td>
<td>13.82</td>
<td>102.68&lt;sup&gt;m&lt;/sup&gt;</td>
<td>15.96</td>
</tr>
<tr>
<td>Sophomores</td>
<td>106.31&lt;sup&gt;k&lt;/sup&gt;</td>
<td>15.15</td>
<td>106.77&lt;sup&gt;n&lt;/sup&gt;</td>
<td>16.85</td>
</tr>
<tr>
<td>Seniors</td>
<td>108.99&lt;sup&gt;h&lt;/sup&gt;</td>
<td>12.46</td>
<td>99.63&lt;sup&gt;b&lt;/sup&gt;</td>
<td>14.70</td>
</tr>
</tbody>
</table>

Notes.  
<sup>a</sup>n = 106.  <sup>b</sup>n = 51.  <sup>c</sup>n = 55.  <sup>d</sup>n = 86.  <sup>e</sup>n = 37.  <sup>f</sup>n = 49.  
<sup>g</sup>n = 116.  <sup>h</sup>n = 56.  <sup>i</sup>n = 60.  <sup>j</sup>n = 108.  <sup>k</sup>n = 52.  <sup>l</sup>n = 88.  
<sup>m</sup>n = 89.  <sup>n</sup>n = 38.  <sup>o</sup>n = 117.  <sup>p</sup>n = 61.  
*p<.05.  **p<.01.
Grade Point Average

Null Hypothesis 5a. There is no difference in the global knowledge of students who earn a higher G.P.A. and those who earn a lower G.P.A.

There was a significant difference in the level of global knowledge of those who earned a higher G.P.A. and those who earned a lower G.P.A. (Table 9). Null hypothesis 5a was rejected at the .05 significance level. Those who earned a G.P.A. of 3.0 or higher scored significantly higher on the test \(M=16.38\) than those who earned a G.P.A. of 2.9 or less \(M=15.32\). This finding supports that found by Barrows, Clark, and Klein (1981) and Woyach (n.d., 1987): students who earned a higher G.P.A. were more knowledgeable concerning global issues than those students who earned a lower G.P.A.

There was no significant difference in the level of global knowledge of those who earned a higher G.P.A. and those who earned a lower G.P.A. in the sophomore sub-sample. However, there was a significant difference in the level of global knowledge of students who earned a higher G.P.A. and those who earned a lower G.P.A. on the senior sub-sample at the .05 significance level (Table 9). Students who earned a G.P.A. of 3.0 or above scored higher on the test \(M=17.18\) than those who earned a G.P.A. of 2.9 or less \(M=15.99\).

Null Hypothesis 5b. There is no difference in the global attitudes of students who earn a higher G.P.A. and those who earn a lower G.P.A.

A significant difference was found in the global attitudes of students who earned a higher overall G.P.A. and those who earned a lower G.P.A on the Student Self-Perceptions Scale (Table 9). On this scale, null hypothesis 5b was rejected at the .05 significance level. Those students who earned a G.P.A. of 3.0 or higher possessed higher global attitudes scores \(M=6.75\) than those who earned a G.P.A. of 2.9 or less \(M=6.24\). No significant differences were found on the Student Opinion Survey for those who earned a higher G.P.A. and those who earned a lower G.P.A.
There were no significant differences in the global attitudes of students who earned a higher G.P.A. and those who earned a lower G.P.A. on both scales in the sub-samples of sophomore and senior students (Table 9).

Table 9.
Independent Variable of Grade Point Average: Summary Results of Null Hypothesis 5a and 5b

<table>
<thead>
<tr>
<th>Dependent Variables (Total Possible Score)</th>
<th>Lower G.P.A.</th>
<th>Higher G.P.A.</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>SD</td>
<td>Means</td>
</tr>
<tr>
<td>Global Knowledge Test (27)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>15.32c</td>
<td>3.25</td>
<td>16.38f</td>
</tr>
<tr>
<td>Sophomores</td>
<td>14.57d</td>
<td>3.02</td>
<td>15.45g</td>
</tr>
<tr>
<td>Seniors</td>
<td>15.99e</td>
<td>3.34</td>
<td>17.18h</td>
</tr>
<tr>
<td>Self-Perceptions Scale (10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>6.24j</td>
<td>2.33</td>
<td>6.75k</td>
</tr>
<tr>
<td>Sophomores</td>
<td>6.43d</td>
<td>2.29</td>
<td>6.99l</td>
</tr>
<tr>
<td>Seniors</td>
<td>6.06j</td>
<td>2.36</td>
<td>6.54h</td>
</tr>
<tr>
<td>Opinion Survey (160)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>102.08i</td>
<td>16.64</td>
<td>104.79m</td>
</tr>
<tr>
<td>Sophomores</td>
<td>103.35d</td>
<td>16.68</td>
<td>106.03n</td>
</tr>
<tr>
<td>Seniors</td>
<td>100.99j</td>
<td>16.64</td>
<td>103.71o</td>
</tr>
</tbody>
</table>

Notes.  

aG.P.A. 2.9 or less  
bG.P.A. 3.0 or greater  
cn = 131. dÂ²n = 62. en = 69. fn = 177. gn = 82. bn = 95.  
fn = 134. gfn = 134. kn = 178. bn = 83. mfn = 180. an = 84.  
Ãµn = 96.  
*p<.05. **p<.01.
Educational Level of Parents

Null Hypothesis 6a. There is no difference in the global knowledge of students whose parents have attended college and those whose parents have not attended college.

As Tables 10 and 11 indicate, there was no significant difference in the level of global knowledge of students whose parents attended college and those whose parents did not. Null hypothesis 6a failed to be rejected at the .05 significance level. Research conducted by Barrows, Clark and Klein (1981) and Woyach (n.d., 1987) contradicts this finding. Barrows, Clark, and Klein (1981) discovered that education of parents is highly correlated with tests of global knowledge in students. Further, students whose mothers have had at least some college education were found to be associated with greater global knowledge than those whose mothers had not attended college (Woyach, n.d., 1987).

There were no significant differences in the level of global knowledge of students whose parents attended college and those whose parents did not in the sophomore student sub-sample (Tables 10 and 11). However, in the senior student sub-sample there was a significant difference between students whose mothers have attended college and those students whose mothers have not at the .05 significance level (Table 11). Students whose mothers attended college scored higher on the test (M=17.03) than students whose mothers did not attend college (M=15.75). There was no difference in the level of global knowledge of those students whose fathers have attended college and those students whose fathers did not attend college.

Null Hypothesis 6b. There is no difference in the global attitudes of students whose parents have attended college and those whose parents have not attended college.

No significant differences were found in the global attitudes of students whose parents attended college and those students whose parents did not attend on both the Student Self-Perceptions Scale and the Student
Opinion Survey (Tables 10 and 11). Null hypothesis 6b failed to be rejected at the .05 significance level. This supports the research of Barrows (1981) who found that the education of parents did not correlate with more positive global attitudes in college students. O'Malley (1983) found conflicting results; administrators at higher education institutions were found to have higher worldminded attitudes if their parents had a college education.

In the sub-samples of sophomore and senior students there were no significant differences in the global attitudes of those students whose parents have attended college and those who have not attended college on both the attitude scales (Tables 10 and 11).
Table 10.

Independent Variable of Father’s Education: Summary Results of Null Hypothesis 6a and 6b

<table>
<thead>
<tr>
<th>Dependent Variables (Total Possible Score)</th>
<th>No College</th>
<th></th>
<th>Some College</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>SD</td>
<td>Means</td>
<td>SD</td>
<td>F</td>
</tr>
<tr>
<td>Global Knowledge Test (27)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>15.70\textsuperscript{a}</td>
<td>3.37</td>
<td>15.98\textsuperscript{d}</td>
<td>3.42</td>
<td>0.26</td>
</tr>
<tr>
<td>Sophomores</td>
<td>15.56\textsuperscript{b}</td>
<td>3.10</td>
<td>14.95\textsuperscript{e}</td>
<td>3.11</td>
<td>0.91</td>
</tr>
<tr>
<td>Seniors</td>
<td>15.85\textsuperscript{c}</td>
<td>3.60</td>
<td>16.93\textsuperscript{f}</td>
<td>3.43</td>
<td>2.89</td>
</tr>
<tr>
<td>Self-Perceptions Scale (10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>6.12\textsuperscript{g}</td>
<td>2.48</td>
<td>6.65\textsuperscript{i}</td>
<td>2.09</td>
<td>3.05</td>
</tr>
<tr>
<td>Sophomores</td>
<td>6.34\textsuperscript{h}</td>
<td>2.32</td>
<td>6.85\textsuperscript{j}</td>
<td>2.11</td>
<td>1.29</td>
</tr>
<tr>
<td>Seniors</td>
<td>5.95\textsuperscript{b}</td>
<td>2.60</td>
<td>6.45\textsuperscript{k}</td>
<td>2.07</td>
<td>1.60</td>
</tr>
<tr>
<td>Opinion Survey (160)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>103.67\textsuperscript{l}</td>
<td>17.22</td>
<td>103.63\textsuperscript{m}</td>
<td>15.78</td>
<td>0.00</td>
</tr>
<tr>
<td>Sophomores</td>
<td>106.03\textsuperscript{b}</td>
<td>19.11</td>
<td>104.61\textsuperscript{n}</td>
<td>14.92</td>
<td>0.19</td>
</tr>
<tr>
<td>Seniors</td>
<td>101.95\textsuperscript{b}</td>
<td>15.75</td>
<td>102.73\textsuperscript{r}</td>
<td>16.54</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Notes. \( ^a n = 67. ^b n = 29. ^c n = 39. ^d n = 239. ^e n = 115. ^f n = 125. ^g n = 68. ^h n = 40. ^i n = 243. ^j n = 116. ^k n = 127. ^l n = 69. ^m n = 245. ^n n = 117. ^o n = 128. \)
Table 11.

**Independent Variable of Mother’s Education: Summary Results of Null Hypothesis 6a and 6b**

<table>
<thead>
<tr>
<th>Dependent Variables (Total Possible Score)</th>
<th>No College</th>
<th></th>
<th>Some College</th>
<th></th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>SD</td>
<td>Means</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Global Knowledge Test (27)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>15.34*a</td>
<td>3.02</td>
<td>16.10*d</td>
<td>3.51</td>
<td>0.28</td>
</tr>
<tr>
<td>Sophomores</td>
<td>14.74*b</td>
<td>3.16</td>
<td>15.16*e</td>
<td>3.10</td>
<td>0.44</td>
</tr>
<tr>
<td>Seniors</td>
<td>15.75*c</td>
<td>2.88</td>
<td>17.03*f</td>
<td>3.66</td>
<td>4.46*</td>
</tr>
<tr>
<td>Self-Perceptions Scale (10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>6.47*g</td>
<td>2.56</td>
<td>6.55*i</td>
<td>2.07</td>
<td>0.58</td>
</tr>
<tr>
<td>Sophomores</td>
<td>6.67*h</td>
<td>2.50</td>
<td>6.77*j</td>
<td>2.07</td>
<td>0.06</td>
</tr>
<tr>
<td>Seniors</td>
<td>6.34*h</td>
<td>2.62</td>
<td>6.33*k</td>
<td>2.05</td>
<td>0.00</td>
</tr>
<tr>
<td>Opinion Survey (160)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>105.11,l</td>
<td>15.83</td>
<td>103.15,o</td>
<td>16.20</td>
<td>0.68</td>
</tr>
<tr>
<td>Sophomores</td>
<td>108.39,m</td>
<td>16.46</td>
<td>103.95,j</td>
<td>15.53</td>
<td>1.95</td>
</tr>
<tr>
<td>Seniors</td>
<td>102.94,h</td>
<td>15.20</td>
<td>102.38,o</td>
<td>16.85</td>
<td>0.04</td>
</tr>
</tbody>
</table>

Notes.  
\(^{a}n = 75. \quad ^{b}n = 30. \quad ^{c}n = 45. \quad ^{d}n = 231. \quad ^{e}n = 114. \quad ^{f}n = 118. \quad ^{g}n = 77. \quad ^{h}n = 47. \quad ^{i}n = 234. \quad ^{j}n = 115. \quad ^{k}n = 119. \quad ^{l}n = 78. \quad ^{m}n = 31. \quad ^{n}n = 235. \quad ^{o}n = 120. \quad *p<.05.

**International Travel**

Null Hypothesis 7a. There is no difference in the global knowledge of students who have participated in international travel and those who have not.

There was no significance difference in the level of global knowledge of those who have not participated in any international travel, those students who have spent four weeks or less traveling, and those who have spent five or more weeks traveling internationally (Table 12). Null
hypothesis 7a failed to be rejected at the .05 significance level. This contradicts the research of Barrows (1981) who found that students who have participated in international travel tended to possess more global knowledge than those who have not had such experiences. Woyach (n.d, 1987) also found an association between international travel and greater global knowledge in college students.

There were no significant differences in the level of global knowledge of students who have not participated in any international travel, those who have spent four weeks or less traveling, and those who have spent five or more weeks traveling internationally on both the sophomore and senior student sub-samples (Table 12).

Null Hypothesis 7b. There is no difference in the global attitudes of students who have participated in international travel and those who have not.

There was no significance difference in the global attitudes of those who have not participated in any international travel, those students who have spent four weeks or less traveling, and those who have spent five or more weeks traveling internationally on both attitude scales (Table 12). A study of Iowa home economics teachers supports this finding as it was determined that the educator's global perspectives were unrelated to any cross-cultural or international experiences they may have had inside or outside of the United States (Babich, 1986). This contradicts the research of Woyach (n.d., 1987) who determined that individuals who participated in international travel had a greater international awareness than those who did not have such travel. This finding also differs from the research of Williams (1988) who determined that travel of at least one cumulative month outside the United States was related to teachers being more accepting of global curriculum goals and having greater worldmindedness than those who did not travel. Null hypothesis 7b failed to be rejected at the .05 significance level.
On the sophomore student sub-sample, no significant differences were found on either of the attitude scales of those who have not participated in any international travel, those who have traveled four weeks or less, and those who have traveled internationally for five or more weeks. However, a significant difference was found on the Student Self-Perceptions Scale for the senior sub-sample at the .05 significance level (Table 12). Students who have traveled for five weeks or more were found to possess higher attitudes ($M=6.76$) than those who have traveled for four weeks or less ($M=5.79$). There was no significant difference between those who have not participated in any international travel and those who have traveled five or more weeks. Also, there was no significant difference between those who have not traveled internationally at all, and those who have traveled for four or less weeks. No significant differences were found on the Student Opinion Survey in the senior sub-sample.
Table 12.
Independent Variable of International Travel: Summary of Null Hypothesis 7a and 7b

<table>
<thead>
<tr>
<th>Dependent Variables (Total Possible Score)</th>
<th>No Travel</th>
<th>4 Weeks or Less Travel</th>
<th>5 Weeks or More Travel</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>SD</td>
<td>Means</td>
<td>SD</td>
</tr>
<tr>
<td>Global Knowledge Test (27)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>16.32a</td>
<td>3.21</td>
<td>15.51d</td>
<td>3.06</td>
</tr>
<tr>
<td>Sophomores</td>
<td>15.63b</td>
<td>3.25</td>
<td>14.81c</td>
<td>2.72</td>
</tr>
<tr>
<td>Seniors</td>
<td>17.08c</td>
<td>3.04</td>
<td>16.18f</td>
<td>3.29</td>
</tr>
<tr>
<td>Self-Perceptions Scale (10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>6.23j</td>
<td>2.33</td>
<td>6.27m</td>
<td>2.20</td>
</tr>
<tr>
<td>Sophomores</td>
<td>6.29k</td>
<td>2.20</td>
<td>6.80n</td>
<td>2.18</td>
</tr>
<tr>
<td>Seniors</td>
<td>6.17l</td>
<td>2.51</td>
<td>5.79p</td>
<td>1.89</td>
</tr>
<tr>
<td>Opinion Survey (160)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>104.11l</td>
<td>16.70</td>
<td>102.61p</td>
<td>15.24</td>
</tr>
<tr>
<td>Sophomores</td>
<td>104.91k</td>
<td>15.85</td>
<td>104.94e</td>
<td>14.01</td>
</tr>
<tr>
<td>Seniors</td>
<td>103.20l</td>
<td>17.84</td>
<td>100.49o</td>
<td>14.97</td>
</tr>
</tbody>
</table>

Notes. 

- $^a n = 61$. $^b n = 32$. $^c n = 29$. $^d n = 103$. $^e n = 50$. $^f n = 53$. 
- $^g n = 103$. $^h n = 62$. $^i n = 82$. $^j n = 64$. $^k n = 34$. $^l n = 30$. 
- $^m n = 104$. $^n n = 49$. $^o n = 55$. $^p n = 105$. $^q n = 145$. $^r n = 83$. 
- *$p<.05$. 

88
Foreign Language Competency

Null Hypothesis 8a. There is no difference in the global knowledge of students with more foreign language competency and those with less foreign language competency.

As Table 13 indicates a significant difference was found in the level of global knowledge by foreign language competency. Null hypothesis 8a was rejected at the .05 significance level. Those students who have no foreign language abilities scored higher (M=16.51) on the Global Knowledge Test than those who have much competency (M=14.78). There was no significant difference between those who have some foreign language competency (able to either understand, speak, read or write one language) and those who have no foreign language abilities. There was also no significant difference between those who have some foreign language competency and those who have much competency.

A significant difference was found in the sophomore student sub-sample and the three levels of foreign language competency at the .05 significance level (Table 13). Those students who do not have any foreign language competency scored higher on the Global Knowledge Test (M=15.86) than those who have much foreign language competency (M=14.17). There were no significant differences between those who have no foreign language competency and those with some competency, and those who have some foreign language competency and those students with much foreign language competency. There were no significant differences in the level of global knowledge for the three levels of foreign language competency in the senior student sub-sample.

Null Hypothesis 8b. There is no difference in the global attitudes of students with more foreign language competency and those with less foreign language competency.

There were no significant differences in the global attitudes of students who have no foreign language competency, some foreign language
competency, and much foreign language competency on both attitude scales (Table 13). Null hypothesis 8b failed to be rejected at the .05 significance level. This finding confirms the research of Barrows (1981) who found that foreign language ability is not correlated with students' global attitude.

On both the sophomore and senior student sub-samples there were no differences in the global attitudes of students with different levels of foreign language competency on the Student Self-Perceptions Scale and the Student Opinion Survey (Table 13).
Table 13.
Independent Variable of Foreign Language Competency: Summary Results of Null Hypothesis 8a and 8b

<table>
<thead>
<tr>
<th>Dependent Variables (Total Possible Score)</th>
<th>No Foreign Language Competency</th>
<th>Some Foreign Language Competency</th>
<th>Much Foreign Language Competency</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>SD</td>
<td>Means</td>
<td>SD</td>
</tr>
<tr>
<td>Global Knowledge Test (27)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>16.51\textsuperscript{a}</td>
<td>3.52</td>
<td>15.76\textsuperscript{d}</td>
<td>3.35</td>
</tr>
<tr>
<td>Sophomores</td>
<td>15.86\textsuperscript{b}</td>
<td>3.12</td>
<td>14.88\textsuperscript{e}</td>
<td>3.16</td>
</tr>
<tr>
<td>Seniors</td>
<td>16.93\textsuperscript{c}</td>
<td>3.80</td>
<td>16.57\textsuperscript{f}</td>
<td>3.34</td>
</tr>
<tr>
<td>Self-Perceptions Scale (10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>6.19\textsuperscript{j}</td>
<td>2.27</td>
<td>6.66\textsuperscript{l}</td>
<td>2.16</td>
</tr>
<tr>
<td>Sophomores</td>
<td>6.10\textsuperscript{k}</td>
<td>2.20</td>
<td>6.99\textsuperscript{m}</td>
<td>2.06</td>
</tr>
<tr>
<td>Seniors</td>
<td>6.25\textsuperscript{c}</td>
<td>2.21</td>
<td>6.36\textsuperscript{n}</td>
<td>2.22</td>
</tr>
<tr>
<td>Opinion Survey (160)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>104.10\textsuperscript{s}</td>
<td>15.86</td>
<td>102.90\textsuperscript{t}</td>
<td>16.56</td>
</tr>
<tr>
<td>Sophomores</td>
<td>105.21\textsuperscript{k}</td>
<td>16.10</td>
<td>104.54\textsuperscript{m}</td>
<td>15.90</td>
</tr>
<tr>
<td>Seniors</td>
<td>103.38\textsuperscript{r}</td>
<td>15.39</td>
<td>101.42\textsuperscript{n}</td>
<td>17.08</td>
</tr>
</tbody>
</table>

Notes. \( ^{a}\text{n} = 104. ^{b}\text{n} = 41. ^{c}\text{n} = 63. ^{d}\text{n} = 177. ^{e}\text{n} = 85. ^{f}\text{n} = 92. ^{g}\text{n} = 26. ^{h}\text{n} = 18. ^{i}\text{n} = 8. ^{j}\text{n} = 105. ^{k}\text{n} = 42. ^{l}\text{n} = 181. ^{m}\text{n} = 86. ^{n}\text{n} = 95. ^{o}\text{n} = 25. ^{p}\text{n} = 17. ^{q}\text{n} = 106. ^{r}\text{n} = 64. ^{s}\text{n} = 105. ^{t}\text{n} = 104. ^{u}\text{n} = 92. ^{v}\text{n} = 26. ^{w}\text{n} = 18. ^{x}\text{n} = 8. ^{y}\text{n} = 42. ^{z}\text{n} = 181. ^{\text{p}}\text{n} = 86. ^{\text{q}}\text{n} = 95. ^{\text{r}}\text{n} = 25. ^{\text{s}}\text{n} = 17. ^{\text{t}}\text{n} = 106. ^{\text{u}}\text{n} = 64. ^{\text{v}}\text{p} < 0.05. \)
**Attention to World News**

Null Hypothesis 9a. There is no difference in the global knowledge of students who pay attention to world news and those who do not.

As the data indicate in Table 14, there was a significant difference in the global knowledge of students who read the international section of the newspaper and those who do not. Null hypothesis 9a was rejected at the .001 significance level. Students who read the international section of the newspaper scored higher ($M=16.62$) than those who do not read this section of the newspaper ($M=15.00$).

There was also a significant difference in the global knowledge of students who read the international section of the newspaper and those who do not in the sophomore and senior sub-samples (Table 14). For sophomores, those students who read the international section of the newspaper scored higher ($M=15.65$) than those who do not read this section ($M=14.53$) at the .05 significance level. For seniors, those students who read the international section of the newspaper scored higher ($M=17.29$) than those who do not read this section ($M=15.57$) at the .01 significance level.

There was a significant difference in the global knowledge score of those who watch news on television at least three to four times a week ($M=16.50$) and those who watch it less two times a week ($M=15.54$; Table 15) at the .05 significance level. This finding contradicts the research of Barrows, Clark, and Klein (1980) which revealed that there is no relation between the frequency of watching news on television and global knowledge. There was no significant difference in the global knowledge for this variable for the sophomore and senior sub-sample.

There was a significant difference in the global knowledge of students whose main source of news is from the newspaper and students whose main source of news is from other sources at the .05 significance level (Table 16). Students whose main source of news is the newspaper scored higher on the
Global Knowledge Test ($M=16.66$) than those who use other sources ($M=15.60$). There were no significant differences in the global knowledge for the sophomore and senior sub-samples.

There were no significant differences in the global knowledge of students who regularly read a weekly news-magazine and those who did not in the overall sample and both sub-samples.

Null Hypothesis 9b. There is no difference in the global attitudes of students who pay attention to world news and those who do not.

There was a significant difference in the global attitudes of students who read the international section of the newspaper and those who do not read this section (Table 14). On the Student Self-Perceptions Scale, null hypothesis 9b was rejected at the .001 significance level. Students who read the international section of the newspaper were found to possess higher global attitudes scores ($M=7.21$) than those who do not read this section of the newspaper ($M=5.58$). There was no difference in the global attitudes of those who read the international section of the newspaper and those who do not read this section on the Student Opinion Survey.

There was also a significant difference in the global attitudes of students who read the international section of the newspaper and those who do not in the sophomore and senior sub-samples on the Student Self-Perceptions Scale (Table 14). For sophomores, those students who read the international section of the newspaper possessed higher global attitudes scores ($M=7.54$) than those who do not read this section ($M=5.87$) at the .001 significance level. For seniors, those students who read the international section of the newspaper possessed higher global attitudes scores ($M=6.97$) than those who do not read this section ($M=5.23$) at the .001 significance level. There were no differences in the global attitudes of those who read the international section of the newspaper and those who do not on the Student Opinion Survey for both the sophomore and senior sub-samples.
There was a significant difference in the global attitudes of students who watch news on television more than three times a week and those who watch it two times or less ($p<.001$) on the Student Self-Perceptions Scale (Table 15). Those who watch news on television more than three times a week have higher global attitudes scores ($M=7.14$) than those who watch news less than three times a week ($M=6.10$) on Part A. No significant differences were found on the Student Opinion Survey for this variable.

There was also a significant difference in the global attitudes on the Student Self-Perceptions Scale for the sophomore and senior sub-samples (Table 15). For sophomores, those students who watch the news on television three or more times a week were found to possess higher global attitudes scores ($M=7.52$) than those who watch news on television two times or less a week ($M=6.37$) at the .01 significance level. For seniors, those students who watch news on television three or more times a week were found to possess higher global attitudes scores ($M=6.92$) than those who watch news on television two times or less a week ($M=5.78$) at the .01 significance level.

There was a significant difference in the global attitudes on the Student Self-Perceptions Scale for those students whose main source of news is the newspaper and those students who use other sources at the .05 significance level (Table 16). Students who use the newspaper as their main source of news possessed higher global attitudes scores ($M=6.89$) than those who use other sources ($M=6.33$). There were no significant differences for this variable on the sophomore and senior sub-samples. There were also no significant differences on the Student Opinion Survey for the whole sample and the two sub-samples.

There was no significant difference in the global attitudes of students who regularly read weekly news-magazines and those who did not on either of the attitudinal scales. This finding was consistent for the overall sample and both sub-samples.
Table 14.
Independent Variable of Attention to World News Through Reading the International Section of the Newspaper: Summary Results of Null Hypothesis 9a and 9b

<table>
<thead>
<tr>
<th>Dependent Variables (Total Possible Score)</th>
<th>Does Not Read</th>
<th>Reads</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>SD</td>
<td>Means</td>
</tr>
<tr>
<td>Global Knowledge Test (27)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>15.00</td>
<td>3.30</td>
<td>16.62</td>
</tr>
<tr>
<td>Sophomores</td>
<td>14.53</td>
<td>3.23</td>
<td>15.65</td>
</tr>
<tr>
<td>Seniors</td>
<td>15.57</td>
<td>3.32</td>
<td>17.29</td>
</tr>
<tr>
<td>Self-Perceptions Scale (10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>5.58</td>
<td>2.18</td>
<td>7.21</td>
</tr>
<tr>
<td>Sophomores</td>
<td>5.87</td>
<td>2.12</td>
<td>7.54</td>
</tr>
<tr>
<td>Seniors</td>
<td>5.23</td>
<td>2.22</td>
<td>6.97</td>
</tr>
<tr>
<td>Opinion Survey (160)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>102.22</td>
<td>15.04</td>
<td>104.83</td>
</tr>
<tr>
<td>Sophomores</td>
<td>103.11</td>
<td>15.57</td>
<td>106.60</td>
</tr>
<tr>
<td>Seniors</td>
<td>101.15</td>
<td>14.44</td>
<td>103.60</td>
</tr>
</tbody>
</table>

Notes.  

\[ ^a n = 127. \quad ^b n = 70. \quad ^c n = 57. \quad ^d n = 178. \quad ^e n = 73. \quad ^f n = 105. \quad ^g n = 129. \quad ^h n = 59. \quad ^i n = 180. \quad ^j n = 74. \quad ^k n = 106. \quad ^l n = 130. \quad ^m n = 71. \quad ^n n = 181. \quad ^o n = 107. \quad * p < .05. \quad ** p < .01. \quad *** p < .001. \]
Table 15.
Attention to World News Through the Frequency of Watching News on Television

<table>
<thead>
<tr>
<th>Dependent Variables (Total Possible Score)</th>
<th>Watches TV News Less Than 2 Times a Week</th>
<th>Watches TV News More Than 3 Times a Week</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>SD</td>
<td>Means</td>
</tr>
<tr>
<td>Global Knowledge Test (27)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>15.54</td>
<td>3.49</td>
<td>16.50</td>
</tr>
<tr>
<td>Sophomores</td>
<td>14.92</td>
<td>3.41</td>
<td>15.39</td>
</tr>
<tr>
<td>Seniors</td>
<td>16.25</td>
<td>3.45</td>
<td>17.16</td>
</tr>
<tr>
<td>Self-Perceptions Scale (10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>6.10</td>
<td>2.24</td>
<td>7.14</td>
</tr>
<tr>
<td>Sophomores</td>
<td>6.37</td>
<td>2.13</td>
<td>7.52</td>
</tr>
<tr>
<td>Seniors</td>
<td>5.78</td>
<td>2.33</td>
<td>6.92</td>
</tr>
<tr>
<td>Opinion Survey (160)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>103.19</td>
<td>16.20</td>
<td>104.33</td>
</tr>
<tr>
<td>Sophomores</td>
<td>104.06</td>
<td>15.46</td>
<td>106.54</td>
</tr>
<tr>
<td>Seniors</td>
<td>102.21</td>
<td>17.02</td>
<td>102.98</td>
</tr>
</tbody>
</table>

Notes. \( a_n = 182. \) \( b_n = 97. \) \( c_n = 85. \) \( d_n = 125. \) \( e_n = 47. \) \( f_n = 78. \)
\( g_n = 183. \) \( h_n = 97. \) \( i_n = 86. \) \( j_n = 128. \) \( k_n = 48. \) \( l_n = 80. \)
\( m_n = 184. \) \( n_n = 87. \) \( o_n = 129. \) \( p_n = 49. \)
\( ^* p < .05. \) \( ^{**} p < .01. \) \( ^{***} p < .001. \)
Table 16.
Attention to World News Through Utilization of the Newspaper as the Main Source of News

<table>
<thead>
<tr>
<th>Dependent Variables (Total Possible Score)</th>
<th>Newspaper as Main Source of News</th>
<th>Other Sources as Main Source of News</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>SD</td>
<td>Means</td>
</tr>
<tr>
<td>Global Knowledge Test (27)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>16.66&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.25</td>
<td>15.60&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td>Sophomores</td>
<td>15.83&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.94</td>
<td>14.76&lt;sup&gt;e&lt;/sup&gt;</td>
</tr>
<tr>
<td>Seniors</td>
<td>17.37&lt;sup&gt;c&lt;/sup&gt;</td>
<td>3.35</td>
<td>16.36&lt;sup&gt;f&lt;/sup&gt;</td>
</tr>
<tr>
<td>Self-Perceptions Scale (10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>6.89&lt;sup&gt;g&lt;/sup&gt;</td>
<td>1.80</td>
<td>6.33&lt;sup&gt;i&lt;/sup&gt;</td>
</tr>
<tr>
<td>Sophomores</td>
<td>7.19&lt;sup&gt;h&lt;/sup&gt;</td>
<td>1.69</td>
<td>6.51&lt;sup&gt;j&lt;/sup&gt;</td>
</tr>
<tr>
<td>Seniors</td>
<td>6.62&lt;sup&gt;k&lt;/sup&gt;</td>
<td>1.86</td>
<td>6.18&lt;sup&gt;k&lt;/sup&gt;</td>
</tr>
<tr>
<td>Opinion Survey (160)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total for N</td>
<td>105.32&lt;sup&gt;a&lt;/sup&gt;</td>
<td>17.54</td>
<td>102.83&lt;sup&gt;j&lt;/sup&gt;</td>
</tr>
<tr>
<td>Sophomores</td>
<td>105.67&lt;sup&gt;b&lt;/sup&gt;</td>
<td>17.93</td>
<td>104.53&lt;sup&gt;k&lt;/sup&gt;</td>
</tr>
<tr>
<td>Seniors</td>
<td>105.02&lt;sup&gt;c&lt;/sup&gt;</td>
<td>17.36</td>
<td>101.34&lt;sup&gt;k&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Notes.  
<sup>a</sup>n = 100.  
<sup>b</sup>n = 46.  
<sup>c</sup>n = 54.  
<sup>d</sup>n = 206.  
<sup>e</sup>n = 97.  
<sup>f</sup>n = 109.  
<sup>g</sup>n = 99.  
<sup>h</sup>n = 53.  
<sup>i</sup>n = 211.  
<sup>j</sup>n = 98.  
<sup>k</sup>n = 113.  
<sup>l</sup>n = 212.  
*p<.05.

Other Findings

Political attitudes were not found to be associated with greater amounts of global knowledge for the overall sample and both sub-samples. However, they were found to be associated with higher global attitudes scores on both attitudinal scales. For the overall sample, students who reported liberal political attitudes had higher self-perceptions (M=7.10) than
those who reported being conservative ($M=6.10$) at the .01 significance level. There was no significant difference between those who were liberal and those with no preference, and those who were conservative and those with no preference. For the senior sub-sample, students who reported liberal political attitudes had higher self-perceptions ($M=7.34$) than those who reported having no preference ($M=6.10$) and those who were conservative ($M=5.92$) at the .01 significance level. No significant differences were found in the sophomore sub-sample for the Student Self-Perceptions Scale.

Significant differences were also found on the Student Opinion Survey. For the overall sample, students who reported liberal political attitudes had higher global attitudes scores ($M=111.92$) than those who reported having no preference ($M=106.27$) and those who were conservative ($M=95.91$) at the .001 significance level. There was also a significant difference in the global attitudes of students who reported having no preference and those who were conservative. For the sophomore sub-sample, students who reported liberal political attitudes ($M=111.82$) and those with no preference politically ($M=109.36$) had higher global attitudes scores than those who reported being conservative ($M=95.22$) at the .001 significance level. For the senior sub-sample, students who reported liberal political attitudes had higher global attitudes scores ($M=112.03$) than those who reported having no preference ($M=103.45$) and those who were conservative ($M=96.43$) at the .001 significance level.

Participation in an organized summer-abroad or year-abroad program through O.S.U. was not found to be associated with greater amounts of global knowledge or higher global attitudes scores on either of the attitudinal scales for the overall sample and both sub-samples.

Similarly, students who had participated in the Peace Corps or other service programs abroad were not found to possess greater amounts of global knowledge or higher global attitudes scores as measured by both attitudinal scales. This finding was consistent for the overall sample and
both sub-samples.

Participation in an educational study tour was not found to be associated with greater amounts of global knowledge or higher global attitudes scores on either of the attitudinal scales for the overall sample and the senior sub-sample. However, in the sophomore sub-sample there was a significant difference in the global knowledge of students who had participated in such study tours and those who had not at the .001 significance level. Students who had not traveled on such a study tour scored higher ($M=15.35$) than those who had ($M=11.36$). No significant differences were found on either of the attitudinal scales in this sub-sample.

There were no significant differences in the global knowledge and global attitudes of students who had international visitors stay in their home and those who had not in the overall sample and the sophomore sub-sample. However, in the senior sub-sample there was a significant difference in the global knowledge of students who had international visitors stay in their home and those who had not at the .05 significance level. Students who had international visitors stay in their home scored higher ($M=17.46$) than those who had not ($M=16.19$).

Attendance at cultural or global issues workshops or conferences was not found to be associated with greater amounts of global knowledge or higher global attitudes scores as measured by the Student Opinion Survey. This finding is consistent for the overall sample, and both sub-samples. However, attendance at cultural or global issues workshops or conferences was found to be associated with higher global attitudes scores as measured by the Student Self-Perceptions Scale. For the overall sample, students who had attended such workshops or conferences possessed higher global attitudes scores ($M=7.47$) than those who had not ($M=6.26$) at the .001 significance level. For the sophomore sub-sample, students who had attended such workshops or conferences possessed significantly higher global attitudes scores ($M=7.87$) than those who had not ($M=6.45$) at the
.001 significance level. For the senior sub-sample, students who had attended cultural or global issue workshops or conferences possessed higher self-perceptions ($M=7.14$) than those who had not ($M=6.09$) at the .01 significance level.

Attendance at cultural dinners, shows or presentations at O.S.U. was not found to be associated with greater amounts of global knowledge or higher global attitudes scores as measured by the Student Opinion Survey. This finding was consistent in the overall sample as well as both sub-samples. However, attendance at cultural dinners, shows, or presentations was found to be associated with higher self-perceptions in the overall sample as well as both sub-samples. For the overall sample, students who had attended such events were found to possess higher attitudes ($M=7.68$) than those who had not ($M=6.28$) at the .001 significance level. For the sophomore sub-sample, students who had attended such events were found to possess higher self-perceptions ($M=7.82$) than those who had not ($M=6.48$) at the .01 significance level. For the senior sub-sample, students who had attended cultural dinners, shows, or presentations were found to possess higher global attitudes scores ($M=7.52$) than those who had not ($M=6.11$) at the .01 significance level.

There was no significant difference in the global knowledge of students who reported studying or discussing world issues in class once or more a week and those who reported such things occurred less than once a week in the overall sample and both sub-samples. This finding was also true for the global attitudes as measured by the Student Self-Perceptions Scale and the Student Opinion Survey for the overall sample and the sophomore sub-sample. However, for the senior sub-sample, a significant difference was found in the self-perceptions of students who reported studying or discussing world issues in class once or more a week and those who reported such things occurred less than once a week at the .05 significance level. Those who reported such discussions occurred in class
once a week or more possessed higher global attitudes scores ($M=6.78$) than those who reported such discussions occurred less than once a week ($M=6.04$). There was no difference in the global attitudes of seniors, as measured by the Student Opinion Survey, for this variable.

There was no significant difference in the global knowledge of students who had taken a cultural diversity class and those who had not at the .05 significance level for the overall sample and the sophomore sub-sample. However, for the senior sub-sample, there was a significant difference in the global knowledge of those who had taken such a class and those who had not at the .05 significance level. Students who had not taken a cultural diversity class scored higher ($M=17.01$) on the Global Knowledge Test than those who had ($M=15.80$). A significant difference was also found in the self-perceptions of students who had taken such a class and those who had not. For the overall sample, students who had taken a cultural diversity class possessed higher self-perceptions ($M=6.88$) than those who had not ($M=6.32$) at the .05 significance level. For the senior sub-sample, students who had taken a cultural diversity class possessed higher self-perceptions ($M=7.02$) than those who had not ($M=6.03$) at the .01 significance level. No significant difference was found in the sophomore sub-sample on the Student Self-Perceptions Scale. In addition, no differences were found on the Student Opinion Survey for the overall sample and both sub-samples.

There was no significant difference in the global knowledge of students who had taken a global perspectives class and those who had not at the .05 significance level for the overall sample and the sophomore sub-sample. However, for the senior sub-sample, there was a significant difference in the global knowledge of those who had taken such a class and those who had not at the .05 significance level. Students who had not taken a global perspectives class scored higher ($M=17.08$) on the Global Knowledge Test than those who had ($M=15.93$). A significant difference was
also found in the self-perceptions of students who had taken such a class and those who had not. For the overall sample, students who had taken a global perspectives class possessed higher global attitudes scores (M=6.88) than those who had not (M=6.32) at the .05 significance level. For the senior sub-sample, students who had taken a global perspectives class possessed higher global attitudes scores (M=7.13) than those who had not (M=5.89) at the .001 significance level. No significant difference was found in the sophomore sub-sample on the Student Self-Perceptions Scale. In addition, no differences were found on the Student Opinion Survey for the overall sample and both sub-samples.

This chapter has included a description of the sample, knowledge test and attitude scales, the results from the tests of hypotheses, and other findings based on further data analysis. Chapter V will provide a summary of the procedure, summary of findings and implications, limitations, and recommendations.
CHAPTER V
SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

This chapter provides a summary of the procedure, a summary of the findings and implications, limitations, and recommendations.

Summary of Procedure

The purpose of the study was to determine the level of global knowledge and global attitudes of selected American undergraduate students at Oregon State University (O.S.U.) and to determine the relationship between global knowledge and attitudes and selected demographic characteristics.

Specifically, this study aimed to 1) measure the level of global knowledge of selected college students at O.S.U., 2) assess the relationships between socio-demographic variables and global knowledge, 3) assess the global attitudes of selected college students at O.S.U., 4) assess the relationships between socio-demographic variables and global attitudes.

The data were collected in the fall of 1992. Five hundred and ninety-nine questionnaires were mailed to sophomore and senior students pursuing degrees in areas of home economics, business, and engineering at O.S.U. The survey was completed and returned by 348 students. Non-American citizens were deleted from the sample as well as those questionnaires with insufficient data, leaving 314 usable questionnaires. Collected data were coded and analyzed using the SAS System Software package. The data
were analyzed using t-tests and one-way analysis of variance (ANOVA). A 0.05 significance level was chosen as the criterion for rejection of the null hypotheses.

Summary of Findings and Implications

The results indicated that gender, age, academic level, academic major, Grade Point Average (G.P.A.), lack of foreign language competency, and reading international news from the newspaper were related to higher levels of global knowledge in students. The following variables were found to be related to higher global attitude scores as indicated by scores on the Student Self-Perceptions Scale: gender, age, G.P.A., and reading international news from the newspaper. Only gender and academic major were found to be related to higher global attitude scores as indicated by the Student Opinion Survey. It should be kept in mind as reviewing the results that none of the students did very well on the Global Knowledge Test, the Student Self-Perception Scale, or the Student Opinion Survey.

Gender. Male students received a higher mean score than females on the Global Knowledge Test. This may imply that males know more and have more interest in international or global affairs than females. Or perhaps they are more interested in world news, which was found to be related to greater amounts of global knowledge. Males scored higher in both the sophomore and senior sub-samples, indicating that these differences may persist over time.

Females were found to possess higher global attitude scores than males on the Student Self-Perceptions Scale. Research in gender theory has found that females have more of an interest in and concern about others than males (Ickes & Barnes, 1977 as cited in Basow, 1986). This may explain the differences between males and females, as this scale primarily
measured concern. This finding was also consistent in the sophomore sub-sample, but not the senior sub-sample.

Females were also found to possess higher global attitude scores on the Student Opinion Survey than males. This finding is consistent in the senior sub-sample. Research has found that females tend to be more altruistic than males (Shigetoni, Hartmann, & Gelfand, 1981 as cited in Basow, 1986), which could cause them to possess higher attitudes on the sub-scales of human rights, cooperation and war. Further, research indicates that there is a modest difference in the aggressiveness of males and females; males have "a somewhat greater tendency than females to respond to certain situations with behavioral aggression" (Basow, 1986, p. 67). This may also predispose women to score higher on the war sub-scale than males.

Age. Overall, older students answered more questions correctly on the Global Knowledge Test. This may suggest that more exposure and experiences can contribute to global knowledge. However, for the sophomore and senior sub-samples there were no significant differences in the global knowledge of older and younger students. This indicates that differences exist for the whole sample, but not for the sub-samples. This finding may be due in part to the sample sizes of students aged 25 or older. In the sophomore sub-sample there were only nine students (6.2 percent) in this category and in the senior sub-sample there were 32 (19.1 percent). Perhaps if the sample sizes were larger and more students aged 25 or older were included, the results would be similar to those found for the whole sample. This may explain the difference between the sophomore sub-sample and the entire sample, but probably not the difference for the senior sub-sample and the entire sample, since the ratios were similar.

Older students were also found to possess higher global attitude scores than younger students on the Student Self-Perceptions Scale. This implies that age is important for increasing global attitudes. This finding
was also shown to be true on the senior sub-sample, but no significant differences were found on the sophomore sub-sample. Again, the sample size of those aged 25 or older in this sub-sample may account for this finding.

**Academic Level.** Senior students were found to possess more global knowledge than sophomore students. This may imply that global knowledge is acquired through the formal education process. The finding that seniors possess more global knowledge than sophomores led to the additional analyses for the sophomore and senior sub-samples for other variables being tested in the study. No significant differences were found between the sophomores and seniors on either of the attitudinal scales.

**Academic Major.** Engineering students scored significantly higher on the Global Knowledge Test than business and home economics students. This result was also confirmed in the sophomore and senior sub-samples suggesting that more scientific majors provide more of a global knowledge base for students. Although engineering students listed few, if any, courses from their major in which world problems or issues are discussed, the college seems to have effectively balanced the role of pre-professional training courses and a liberal education to provide students with greater amounts of global knowledge than the other two colleges tested. Business students consistently were found to have the next highest scores on the Global Knowledge Test in the total sample and the sophomore and senior sub-samples. Home economics students were found to score the lowest on the Global Knowledge Test in the total sample and the sub-samples. Home economics students were found to possess significantly higher global attitudes scores on the Student Opinion Survey than business and engineering students. Business students possessed the next highest global attitudes on this scale and engineering students the lowest global attitudes. The discrepancy between global knowledge and global attitudes between home economics and engineering students may be due in part to the
prominent gender registered in each college. Home economics students have typically been the female gender and engineering students more typically the male gender. As mentioned earlier, males have been found to possess more global knowledge than females and females have been found to possess higher global attitude scores.

G.P.A. Students who earn a G.P.A. of 3.0 or greater were able to answer more questions correctly than those who earn a G.P.A. of 2.9 or less. For the senior sub-sample this finding also held true. This result may suggest that those students who have more academic abilities are able to attain more global knowledge. Perhaps those who earn a higher G.P.A. are more interested in world affairs, are more attentive to them, and retain greater amounts of global knowledge. In addition, reading may be an intervening variable that affects both G.P.A. and global knowledge.

Those students who earn a G.P.A. of 3.0 or greater were found to possess higher global attitudes scores on the Student Self-Perceptions Scale than those who earn a G.P.A. of 2.9 or less. This may suggest that students with more academic abilities focus more of their attention on kinship, interest, and concern for others than those who earn a lower G.P.A.

Educational Level of Parents. The education of one's father was not found to be associated with one's global knowledge score for the overall sample and the two sub-samples of sophomores and seniors. This result was also found with the education of one's mother for the overall sample and the sophomore sub-sample. However, for the senior sub-sample a significant difference was found in the global knowledge of students whose mothers attended college and those students whose mothers did not.

International Travel. International travel was not found to be associated with greater amounts of global knowledge or higher global attitudes scores for either of the attitudinal scales in the overall sample and sophomore sub-sample. However, a significant difference was found in the self-perceptions of senior students who had an opportunity to travel
internationally and those who did not. Participation in study abroad programs, the Peace Corps or other service projects abroad, and educational study tours were not found to be associated with global knowledge or higher global attitudes scores. In fact, on the sophomore sub-sample, students who had participated in an educational study tour were found to possess less global knowledge than those who had not. These findings suggest that international travel may not be a necessary prerequisite for global knowledge and higher global attitudes scores and that those who are not afforded the opportunity to travel are not necessarily deprived of access to global knowledge or the development of higher global attitudes scores. However, the country visited may make a difference in increasing global knowledge and promoting higher global attitudes scores. Four weeks spent in Canada would not provide the same cultural experience as four weeks in Thailand. In addition, the knowledge gained in international travel may be different than that measured on the Global Knowledge Test. Finally, perhaps interaction with various cultures has a greater impact on the global knowledge and global attitudes of students than traveling internationally.

Contact with international visitors was found to be associated with greater amounts of global knowledge on the senior sub-sample. Students who had international visitors stay in their home scored higher on the Global Knowledge Test than those who had not.

**Foreign Language Competency.** Students who had no foreign language competency scored higher on the Global Knowledge Test than those who had some or much foreign language competency in the overall sample and sophomore sub-sample. This suggests that the study of foreign languages may not be a necessary prerequisite for global knowledge.

Foreign language competency was not found to be related to global attitudes on either of the attitudinal scales. Perhaps these findings of foreign languages having no association with greater amounts of global knowledge or higher global attitudes scores are related to the typical
teaching style of foreign languages. Commonly, the cultures of the languages are not included in the study, not providing students increased global knowledge or more positive global attitudes (Findlay, 1988).

Probably as students proceed through foreign language classes and reach higher levels of competency, more emphasis is placed on the culture of the people who speak the language. Requirements of higher levels of foreign language competency could also make a difference in the global knowledge and global attitudes of college students. Perhaps foreign language study should be required for students as early as grammar school and be required to continue through college. Fluency in a foreign language may be related to increased global knowledge and higher global attitudes scores.

Research has shown that many universities are seeking to internationalize higher education by placing a greater importance on foreign language study and by emphasizing the culture. Studying abroad in a country where people speak the language being studied has also been suggested to provide richness to language study. Interacting with the people from another culture in their country may increase students' global attitudes in the form of self-perceptions. Perhaps if these actions accompanied the study of foreign languages, global knowledge would be increased and global attitudes would become higher in students.

**Attention to International News.** Students who read the international section of the newspaper were found to score higher on the Global Knowledge Test than students who did not read the international section of the newspaper. This suggests that by reading the international section of the newspaper global knowledge can be attained.

Student Self-Perceptions were also found to be influenced positively through reading the international section of the newspaper. This suggests that by reading the international section of the newspaper global attitudes in the form of kinship, interest, and concern can be increased. Students who watched news on television more than three times a week
scored significantly higher on the Global Knowledge Test and were found to possess higher global attitudes scores, indicated by the Student Self-Perceptions Scale, than those who watched it less than two times a week. This suggests that attention to news is important to both increase the level of global knowledge that students possess and support the development of higher global attitudes scores.

The source of news was also related to the global knowledge of students and higher global attitudes scores in the form of Student Self-Perceptions. Students who used the newspaper as their main source of news were found to possess significantly more global knowledge and higher global attitudes scores than students who used all other sources. This suggests that reading the newspaper is a good source of news to increase global knowledge and attitudes toward kinship, interest and concern among students.

Limitations

The findings cannot be generalized to all the undergraduate students at O.S.U., as the population was limited to home economics, business and engineering students. Further, only 52 percent of the students in the sample completed the questionnaires, and there was no way to determine if those responding were representative of the total population.

The global attitudes measured by the Student Self-Perception Scale and the Student Opinion Survey are relative. In addition, the Global Knowledge Test does not measure all of the students' global knowledge.

The procedure of collecting the data, through the means of a mailed questionnaire also had limitations, as one cannot be certain that the students in the sample actually completed the questionnaire themselves. Also, as the place where the students completed the questionnaires was not controlled, it is possible for students to have looked up the answers to the
Global Knowledge Test. Self-reporting also has the potential for data errors as respondents may report themselves in too good or too bad a light, in anticipation of what the responder thinks the researcher wants to hear or from not knowing what one really feels or thinks about an issue, but reacting to it anyway.

Overall, collapsing continuous data into categories for comparative analysis may have resulted in a loss of some significant differences. As this study relied upon t-tests and ANOVAs it is not possible to draw any causal inferences from the findings. In addition, the repeated use of ANOVAs, as employed in this study, may have resulted in higher alpha Type I error levels.

Recommendations

1. A longitudinal study should be undertaken to retest the sophomore students when they are seniors at O.S.U. A comparison of their global knowledge and attitudes should be conducted to determine if they have come to possess more global knowledge and higher global attitudes scores over time as expected since the implementation of O.S.U.'s Baccalaureate Core program.

2. A study should be conducted which examines the effectiveness of O.S.U.'s Baccalaureate Core in increasing global knowledge and higher global attitudes scores among students. Is six credits of course-work enough to have the intended impact on the global attitudes and global knowledge of students?

3. Compare the curricula of the programs in engineering, business, and home economics to discover where the differences lie in developing global knowledge. To what extent does curriculum play a role in developing global knowledge?
4. More attention should be directed at understanding the gender differences in global knowledge. To what extent might socialization be responsible for the differences?

5. More attention should be directed at understanding what motivates students to pay attention to world news. Study and discussion of global issues was found to be associated with higher self-perception scores in the senior sub-sample. Perhaps such study or discussion fosters more of an interest in world events in students and prompts students to seek out news from other sources, such as the newspaper and television; resulting in increased global knowledge and higher global attitude scores.

6. In this study, liberal political attitudes were associated with higher global attitude scores on both attitudinal scales. Is this the most important predictor of global attitude? Is a liberal orientation necessary for higher global attitude scores? Or is a higher global attitude score necessary for a more liberal orientation?

7. There may be limitations of the Student Opinion Survey. The scale was non-discriminatory in the analysis of the variables. The Student Self-Perceptions Scale does not appear to have this problem. This fact, as well as its length, may predispose the scale to be more useful in the measure of global attitudes in students.

8. Before the Global Knowledge Test is implemented again it is suggested that it be updated and expanded to include a broader base of global knowledge.

9. In future studies, other data collection methods should be considered. If the questionnaire is completed in classes, the cost of the project would be considerably less, the response rate higher, and there would be no possibility for students to look up answers on the Global Knowledge Test.
REFERENCES


APPENDICES
APPENDIX A

Questionnaire
THE WORLD AROUND US:

A SURVEY OF GLOBAL KNOWLEDGE AND ATTITUDES

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1 Based on the Measures of Global Understanding which was written and copyrighted by Educational Testing Service. Adapted and used by permission.
Part A

Listed below are several statements that one might use to describe oneself. Read each statement and decide whether or not it describes you. Indicate your response to each statement by circling one of the letters (T = True, F = False) in front of the statement. Circle one response for every statement, even if you are not completely sure of your answer.

T  F  1.  I am interested in international relations and acquire information about international developments whenever I can.

T  F  2.  The fact that a flood can kill 25,000 people in India is very depressing to me.

T  F  3.  I am most comfortable with people from my own culture.

T  F  4.  I feel a strong kinship with the worldwide human family.

T  F  5.  I rarely read news articles about international events.

T  F  6.  I find the customs of foreigners difficult to understand.

T  F  7.  When I hear that thousands of people are starving in Africa, I feel very frustrated.

T  F  8.  I am not interested in studying other cultures.

T  F  9.  I have almost nothing in common with people in underdeveloped nations.

T  F  10.  I make an effort to meet people from other cultures.
Part B

Respond to each of the following by circling the number that indicates the extent to which you agree with the statement.

Strongly Agree  Agree  Indifferent  Disagree  Strongly Disagree

1  2  3  4  5

After you have read each statement, circle one response even if you are not completely sure of your answer. Do not spend a lot of time on your response to these statements; record your first impression. Work through this as rapidly as possible.

1. Pacifist demonstrations--picketing missile bases, peace walks, etc.--are harmful to the best interests of the American people.

2. I believe that the United States should send food and materials to any country that needs them.

3. The best way to insure peace is to keep the United States stronger than any other nation in the world.

4. The immigration of foreigners to this country should be kept down so that we can provide for Americans first.

5. Political freedom is a basic human right and no government should be permitted to abridge it.

6. The main threat to basic American institutions during this century has come from the infiltration of foreign ideas and doctrines.

7. Since the world's supplies of essential minerals are limited, the mining and distribution of mineral resources should be controlled by an international authority.

8. Everyone should have the right to leave any country, including his own, and to return to his country.
9. We should be willing to settle all differences with other nations within the framework of a World Government.

10. War is a satisfactory way to solve international problems.

11. No government should deny access to basic education to any of its citizens.

12. We should not allow foreign business enterprises to buy American farmland.

13. Under some conditions, war is necessary to maintain justice.

14. Patriotism and loyalty are the first and most important requirements of a good citizen.

15. Immigrants should not be permitted to come into our country if they compete with our own workers.

16. We should have a World Government with the power to make laws that would be binding to all its member nations.

17. Any healthy individual, regardless of race or religion, should be allowed to live in whatever country he chooses.

18. There is no conceivable justification for war.

19. Our country should have the right to prohibit certain racial and religious groups from immigrating.

20. An international authority should be established and given direct control over the production of nuclear energy in all countries, including the United States.
21. It is our responsibility to do everything possible to prevent people from starving anywhere in the world.

22. Changes in government should always be accomplished through peaceful means.

23. It is none of our business if other governments restrict the personal freedom of their citizens.

24. The only way that peace can be maintained is to keep America so powerful and well armed that no other nation will dare to attack us.

25. The United States should be open to all those who wish to settle here.

26. No duties are more important than duties toward one's country.

27. People should refuse to engage in any war, no matter how serious the consequences to their country may be.

28. I prefer to be a citizen of the world rather than of any country.

29. I'm for my country, right or wrong.

30. The United States ought to be willing to give up its independence and submit to the authority of a United States of the World.

31. Violent revolution is sometimes the only way to eliminate an oppressive government.

32. Well-fed people in developed nations should voluntarily cut back on food consumption and contribute food to the inadequately fed in less developed nations.
Part C

In this section, please circle the letter by the choice which best represents your view. This is not a test and you are not expected to look up the answers you do not know. This is simply a test of your current global knowledge. Even if you are not sure, please select one.

1. Since 1950, the percentage of total population in Africa, Asia, and Latin America living in cities has

   (1) INCREASED.
   (2) REMAINED STABLE.
   (3) DECREASED SLIGHTLY.
   (4) DECREASED GREATLY.

2. Of the following, the human activity that has contributed most directly to the environmental alteration of the greatest area of the earth's surface is

   (1) URBANIZATION.
   (2) LIVESTOCK RAISING.
   (3) HUNTING AND GATHERING.
   (4) CULTIVATION OF CROPS.

3. As of 1991, the country of the world which has seen the most destruction by the Acquired Immune Deficiency Syndrome (AIDS) is

   (1) THE UNITED STATES.
   (2) CHINA.
   (3) KENYA.
   (4) DENMARK.

4. The approximate world population in 1992 is

   (1) 3.4 BILLION.
   (2) 5.4 BILLION.
   (3) 1.4 BILLION.
   (4) 4.3 BILLION.
5. The chief nutritional problem of developing countries is:

(1) IODINE.
(2) IRON.
(3) CALORIES.
(4) VITAMIN A.

6. The primary household fuel in Africa and Asia is:

(1) PETROLEUM.
(2) COAL.
(3) NATURAL GAS.
(4) WOOD.

7. Since the Second World War, the gap in per capita income between the world's richest and poorest countries has:

(1) WIDENED.
(2) REMAINED ABOUT THE SAME.
(3) NARROWED SLIGHTLY.
(4) NARROWED SUBSTANTIALLY.

8. Apartheid in South Africa is a term which designates:

(1) THE EXISTENCE OF WIDESPREAD RACIAL PREJUDICE.
(2) A SYSTEM OF LAWS DESIGNED TO SEPARATE THE RACES.
(3) A SYSTEM OF LAWS DESIGNED TO ALLEVIATE ECONOMIC INEQUALITIES.
(4) AFFIRMATIVE ACTION AGAINST DISCRIMINATION.

9. GATT (General Agreement on Tariffs and Trade), IMF (International Monetary Fund), and the World Bank were established after the Second World War to:

(1) ACT AS A SUPRANATIONAL ECONOMIC INSTITUTION THAT WOULD HAVE STRONG AUTHORITY OVER NATIONAL ECONOMIC POLICIES.
(2) SAFEGUARD THE NEEDS OF DEVELOPING COUNTRIES.
(3) PROMOTE AN OPEN INTERNATIONAL ECONOMIC SYSTEM CHARACTERIZED BY FREE TRADE AND CONVERTIBLE CURRENCIES.
(4) OPERATE THE MARSHALL PLAN AND MAKE LOANS TO MULTINATIONAL CORPORATIONS.
10. The basic worldwide cause of the lack of adequate food for a family is

(1) OVERPOPULATION.
(2) THE INABILITY TO PURCHASE NEEDED FOOD OR INPUTS TO PRODUCE FOOD.
(3) FOOD DISTRIBUTION PROBLEMS.
(4) DROUGHT CONDITIONS.

11. The country which had the most people in 1991, with a population over 1 billion, was

(1) NIGERIA.
(2) INDIA.
(3) CHINA.
(4) THE UNITED STATES.

12. The issue that became the focus of a debate about human rights that led to a reform movement is

(1) SLAVERY AMONG THE ANCIENT GREEKS.
(2) SERFDOM IN EUROPE IN THE MIDDLE AGES.
(3) PUNISHMENT FOR HERESY IN EARLY MODERN EUROPE.
(4) SLAVERY IN THE NINETEENTH-CENTURY AMERICA.

13. Most countries that have a majority of their populations working in agriculture and earn most of their foreign exchange from agriculture exports are finding economic development difficult because

(1) THEY ARE ESPECIALLY VULNERABLE TO BOTH CROP FAILURES AND WORLD PRICE FLUCTUATIONS.
(2) THEY CAN ONLY DEVELOP THROUGH MECHANIZATION OF AGRICULTURE, BUT THIS WILL CREATE LARGE SCALE UNEMPLOYMENT.
(3) THERE IS A DECLINING WORLD MARKET FOR AGRICULTURAL PRODUCTS.
(4) THE INCOME OF THE MAJORITY OF THE POPULATION DEPENDS UPON EXPORT EARNINGS.
14. A well-balanced typical meal in less developed countries of the world consists of

(1) MEAT, VEGETABLES, AND A DAIRY PRODUCT.
(2) CEREAL GRAINS AND A SIDE DISH OF VEGETABLES.
(3) MEAT OR FISH AND CEREAL GRAINS.
(4) AN EGG OR OTHER DAIRY PRODUCT, VEGETABLES, AND FRUIT.

15. The three nation-states that contain within their boundaries the most ethno-linguistic diversity are

(1) ITALY, JAMAICA, JAPAN.
(2) CZECHOSLOVAKIA, SRI LANKA, THE UNITED STATES.
(3) INDIA, NIGERIA, IRAN.
(4) PANAMA, ROMANIA, TURKEY.

16. Of the following issues, there has been the greatest success in achieving cross-cultural consensus on aims and policies in

(1) HEALTH, AS EXEMPLIFIED BY THE ACTIVITIES OF THE WORLD HEALTH ORGANIZATION (WHO).
(2) WORKING CONDITIONS, AS EXEMPLIFIED BY THE ACTIVITIES OF THE INTERNATIONAL LABOUR ORGANIZATION (ILO).
(3) INDUSTRIAL DEVELOPMENT, AS EXEMPLIFIED BY THE ACTIVITIES OF THE UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION (UNIDO).
(4) HUMAN RIGHTS, AS EXEMPLIFIED BY THE ACTIVITIES OF THE UNITED NATIONS ECONOMIC AND SOCIAL COUNCIL (ECOSOC).
17. The most correct statement about the exhaustion of natural resources is

(1) WORLDWIDE POPULATION IS THE PRINCIPAL FACTOR
    THREATENING TO EXHAUST RESOURCES.
(2) BECAUSE OF THEIR POPULATION GROWTH,
    DEVELOPING COUNTRIES ACCOUNT FOR A
    DISPROPORTIONATE SHARE OF THE INCREASE IN
    DEMANDS ON RESOURCES.
(3) TECHNOLOGICAL CHANGE IS THE PRINCIPLE FACTOR
    THREATENING TO EXHAUST RESOURCES.
(4) BOTH INCREASING RATES OF PER CAPITA
    CONSUMPTION AND POPULATION GROWTH ARE
    THREATENING TO EXHAUST RESOURCES.

18. In China one-third of the farmland and sixty percent of the rural labor force are devoted to growing rice. The major advantage to China growing rice is that

(1) CHINA HAS SURPLUS FARM LABOR AND FEW
    ALTERNATIVES FOR EMPLOYMENT.
(2) THE CLIMATE AND SOIL ARE CONDUCIVE TO ITS
    GROWTH, AND IT IS CULTURALLY ACCEPTED.
(3) RICE, AS THE MAJOR GRAIN INVOLVED IN WORLD
    TRADE, IS PRINCIPALLY GROWN FOR FOREIGN
    MARKETS TO EARN FOREIGN EXCHANGE.
(4) THE EXTRA LABOR REQUIRED FOR GROWING RICE
    LARGELY CONSISTS OF WOMEN AND CHILDREN, A
    FACT THAT MAKES GROWING RICE LESS THAN THAT OF
    GROWING OTHER GRAINS.

19. The statement which best represents the position of less developed countries in regard to the pollution problems associated with economic development is

(1) THEY ARE MORE CONCERNED ABOUT POLLUTION
    THAN THE MORE DEVELOPED COUNTRIES ARE.
(2) THEY ARE DEMANDING INSTALLATION OF THE MOST
    MODERN POLLUTION CONTROL DEVICES.
(3) THEY EXPRESS CONCERN ABOUT POLLUTION BUT
    BELIEVE ECONOMIC DEVELOPMENT IS MORE
    IMPORTANT.
(4) THEY HAVE SO LITTLE POLLUTION THAT THEY HAVE
    NOT BECOME CONCERNED ABOUT THE PROBLEM.
20. Since the Second World War, ethnic or religious groups that have engaged in violent conflict with one another include

(1) JEWS & ARABS.
(2) JEWS & ARABS; AND CATHOLICS & PROTESTANTS.
(3) HINDUS & MUSLIMS; AND CHRISTIANS & MUSLIMS.
(4) JEWS & ARABS; HINDUS & MUSLIMS; CHRISTIANS & MUSLIMS; AND CATHOLICS & PROTESTANTS.

21. During the last quarter century, the largest percentage of world trade has been

(1) AMONG THE INDUSTRIAL OR DEVELOPED COUNTRIES.
(2) AMONG THE LESS DEVELOPED COUNTRIES.
(3) BETWEEN THE INDUSTRIAL AND DEVELOPED COUNTRIES AND THE LESS DEVELOPED COUNTRIES.
(4) BETWEEN NON-COMMUNIST COUNTRIES AND COMMUNIST COUNTRIES.

22. The action that the United Nations Security Council can take under the United Nations charter if a member country is violating the human rights of its citizens on a massive scale is

(1) IMPOSE A FINE ON THE COUNTRY IN QUESTION.
(2) CALL UPON MEMBER COUNTRIES TO IMPOSE ECONOMIC SANCTIONS AGAINST THE COUNTRY IN QUESTION.
(3) REQUIRE MEMBER COUNTRIES TO ADMIT AS IMMIGRANTS CITIZENS OF THE COUNTRY IN QUESTION WHO FLEE AND BECOME HOMELESS REFUGEES.
(4) WITHDRAW ITS GUARANTEE TO TAKE EFFECTIVE COLLECTIVE MEASURES IF THE COUNTRY IN QUESTION BECOMES THE VICTIM OF INTERNATIONAL AGGRESSION.
23. The term "assured destruction" refers to

(1) THE NOTION, SHARED BY MANY PACIFISTS, THAT THE DESTRUCTION OF ALL NUCLEAR WEAPONS WILL ASSURE WORLD PEACE.
(2) A TECHNICAL CLAUSE, CONTAINED IN MANY PEACE TREATIES, REFERRING TO THE DESTRUCTION OF THE ARSENALS OF DEFEATED PARTIES.
(3) THE LIKELY FATE OF WESTERN CIVILIZATION IN THE EVENT OF A THIRD WORLD WAR.
(4) A DETERRENCE STRATEGY THAT CREDIBLY THREATENS A SIGNIFICANT LEVEL OF POPULATION AND INDUSTRIAL DESTRUCTION SHOULD AN ADVERSARY ATTACK FIRST.

24. The worldwide spread of human disease has been linked to all of the following except

(1) ADVANCES IN TRANSPORTATION TECHNOLOGY AND ASSOCIATED INCREASES IN THE SPEED AT WHICH CARRIERS OF DISEASE TRAVEL.
(2) THE DEVELOPMENT OF SUPER STRAINS OF BACTERIA AND VIRUSES OR THEIR VECTORS AS UNINTENDED CONSEQUENCES OF DISEASE PREVENTION MEASURES.
(3) THE EVOLUTION OF NEW INSECTS SPECIES THAT SOMETIMES CARRY HUMAN DISEASES.
(4) INCREASED CONTACT AMONG HITHERTO REMOTE POPULATIONS THROUGH VOLUNTARY AND INvoluntary MIGRATIONS.

25. The "brain drain" refers to the

(1) LACK OF OPPORTUNITIES FOR MILLIONS OF HIGH SCHOOL STUDENTS TO RECEIVE A UNIVERSITY EDUCATION.
(2) LARGE-SCALE MIGRATION OF HIGHLY TRAINED PROFESSIONALS TO COUNTRIES WITH HIGHER STANDARDS OF LIVING.
(3) RELUCTANCE OF MANY GOVERNMENTS TO EMPLOY IN RESPONSIBLE POSITIONS NATIONALS WHO HAVE STUDIED AND RECEIVED DEGREES ABROAD.
(4) LACK OF FINANCIAL RESOURCES FOR THE DEVELOPMENT OF ADVANCED RESEARCH FACILITIES IN MANY NEWLY INDEPENDENT COUNTRIES.
26. In the area of human rights, the major accomplishment of the Helsinki Accords was the

(1) ESTABLISHMENT OF A COURT WHERE HUMAN RIGHTS COMPLAINTS CAN BE HEARD.
(2) ACKNOWLEDGMENT OF THE SIGNATORIES' RIGHTS TO INTERCEDE IN THE EVENT ONE OF THEIR MEMBERS VIOLATES HUMAN RIGHTS.
(3) COMMITMENT MADE BY THE UNITED STATES TO ADMIT AS AN IMMIGRANT ANY EASTERN EUROPEAN WHO CAN SHOW THAT HIS OR HER HUMAN RIGHTS HAVE BEEN VIOLATED.
(4) RECOGNITION ACCORDED HUMAN RIGHTS AS A LEGITIMATE SUBJECT OF DISCUSSION IN THE EAST-WEST DEBATE.

27. As of 1989, the region of the world which had the most oil reserves was

(1) THE MIDDLE EAST.
(2) AFRICA.
(3) NORTH AMERICA.
(4) LATIN AMERICA.

Part D

Directions: Please circle the letter of your answer or fill in where appropriate. Please do not skip any.

1. Sex:
   (1) FEMALE
   (2) MALE

2. Age:__________

3. Class Standing:
   (1) FRESHMAN
   (2) SOPHOMORE
   (3) JUNIOR
   (4) SENIOR
   (5) POST-GRADUATE

4. Major:________________________________________
5. College: _____________________________

6. What is your approximate college grade point average (G.P.A.)? Circle one.
   (1) 3.5 - 4.0
   (2) 3.0 - 3.4
   (3) 2.5 - 2.9
   (4) 2.0 - 2.4
   (5) 1.5 - 1.9
   (6) LESS THAN 1.5

7. Are you an American citizen?
   (1) YES
   (2) NO

8. Indicate your ethnic background:
   (1) AFRO-AMERICAN
   (2) AMERICAN INDIAN, ESKIMO, or ALEUT
   (3) MEXICAN-AMERICAN
   (4) ORIENTAL, FILIPINO, OR ASIAN-AMERICAN
   (5) PUERTO RICAN, CUBAN OR HISPANIC
   (6) WHITE OR CAUCASIAN
   (7) OTHER (SPECIFY: ________________________)

9. Indicate the region of the world in which you were born.
   (1) NORTH AMERICA
   (2) SOUTH AMERICA
   (3) CENTRAL AMERICA
   (4) EUROPE
   (5) ASIA
   (6) AFRICA
   (7) SOUTH PACIFIC
   (8) OTHER (SPECIFY: ________________________)

10. If you were not born in the USA please indicate the age at which you came to this country (in years) ____________

11. Indicate your general political attitudes.
    (1) CONSERVATIVE
    (2) LIBERAL
    (3) NO PREFERENCE
12. Indicate your parents’ highest level of education. (Circle Number of One Choice in Each Column)

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<tr>
<th>Father</th>
<th>Mother</th>
<th>Choice</th>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>LESS THAN HIGH SCHOOL COMPLETION</td>
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<td>2</td>
<td>2</td>
<td>HIGH SCHOOL DIPLOMA</td>
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<td>3</td>
<td>3</td>
<td>SOME COLLEGE</td>
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<td>4</td>
<td>4</td>
<td>BACHELOR’S DEGREE</td>
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<td>5</td>
<td>5</td>
<td>POST-BACHELOR’S WORK</td>
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<td>6</td>
<td>6</td>
<td>MASTER’S DEGREE AND/OR ABOVE</td>
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<td>7</td>
<td>7</td>
<td>DON’T KNOW</td>
</tr>
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13. Have you ever visited a country other than the United States?
   (1) YES
   (2) NO

14. Please indicate the number of weeks you have traveled in the following regions of the world. Leave blank those areas you have not visited.

   ___ CANADA ___ SCANDINAVIA ___ CHINA
   ___ MEXICO ___ THE BRITISH ISLES ___ KOREA
   ___ THE CARIBBEAN ___ EUROPE ___ JAPAN
   ___ CENTRAL AMERICA ___ THE SOVIET UNION ___ INDIA
   ___ SOUTH AMERICA ___ AFRICA ___ OTHER:
   ___ THE PHILIPPINES ___ SOUTHEAST ASIA 
   ___ AUSTRALIA ___ ISRAEL 
   ___ NEW ZEALAND ___ MIDDLE EAST 

15. Have you ever participated in an organized summer-abroad program or year-abroad program through O.S.U.?
   (1) YES
   (2) NO
16. Have you ever been in the Peace Corps or in any other program involving similar kinds of service abroad?
   (1) YES
   (2) NO

   Briefly explain the nature and length of your service.

________________________________________________________________________

17. Have you ever traveled abroad on an educational study tour?
   (1) YES
   (2) NO

   If yes, what is the total number of months that you have participated in such educational travel?
   (1) LESS THAN 1 MONTH
   (2) 2 - 3 MONTHS
   (3) 4 - 5 MONTHS
   (4) MORE THAN 5 MONTHS

18. Have you or your family ever had international visitors stay in your home?
   (1) YES
   (2) NO

   If yes, what is the approximate total amount of time such visitors have stayed in your home?
   (1) LESS THAN 1 MONTH
   (2) 1 - 3 MONTHS
   (3) 3 - 6 MONTHS
   (4) 6 - 12 MONTHS
   (5) MORE THAN 12 MONTHS

19. Have you attended lectures, workshops or conferences on other cultures or on international or global issues? (Do not include study in formal college or university courses)
   (1) YES
   (2) NO

   If yes, briefly describe it/them______________________________
20. Have you attended any of the cultural dinners, shows or presentations at O.S.U.?
(1) YES
(2) NO

21. Please indicate any languages you can understand, speak, read or write.
(Indicate all that apply with an "X").

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<th>Understand</th>
<th>Speak</th>
<th>Read</th>
<th>Write</th>
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<td>(b) GERMAN</td>
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<td>(c) ITALIAN</td>
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<td>(d) JAPANESE</td>
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<td>(e) SPANISH</td>
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<td>(f) OTHER (SPECIFY)</td>
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</table>

22. How often do you watch world and national news on television?
(1) DAILY
(2) 5 TIMES A WEEK
(3) 3-4 TIMES A WEEK
(4) 1-2 TIMES A WEEK
(5) LESS THAN ONCE A WEEK
(6) NEVER

23. When you read a newspaper, which of the following do you usually read? (Circle all that apply).
(1) SPORTS SECTION
(2) ENTERTAINMENT SECTION
(3) LOCAL NEWS ARTICLES
(4) STATE NEWS ARTICLES
(5) NATIONAL NEWS ARTICLES
(6) INTERNATIONAL NEWS ARTICLES
(7) FINANCIAL SECTION
(8) HOME SECTION
(9) EDITORIALS
(10) LETTERS TO THE EDITOR
(11) DO NOT READ
24. Do you regularly read a weekly news-magazine?
   (1) YES
   (2) NO

   If yes, indicate which ones.
   (1) TIME
   (2) NEWSWEEK
   (3) BUSINESS WEEK
   (4) U.S. NEWS AND WORLD REPORT
   (5) OTHER(SPECIFY:__________________________)

25. Which of the following do you consider the main source of the information you acquire concerning current events? Circle one.
   (1) NEWSPAPERS
   (2) MAGAZINES
   (3) TELEVISION
   (4) RADIO
   (5) OTHER (SPECIFY:__________________________)

26. How often do you study or discuss world problems or issues in your college classes? (Circle one).
   (1) AT LEAST ONCE A DAY
   (2) ONCE OR TWICE A WEEK
   (3) LESS THAN ONCE A WEEK
   (4) NEVER

27. List the classes where the discussion (in # 26) takes place:

   ______________________________________
   ______________________________________

28. Have you taken the class in the Baccalaureate Core which deals with Cultural Diversity?
   (1) YES
   (2) NO
   (3) NOT APPLICABLE
29. Have you taken the class in the Baccalaureate Core which deals with Global Perspectives?

(1) YES
(2) NO
(3) NOT APPLICABLE

Is there anything else you would like to tell me about your global attitudes or knowledge? If so, please use this space for that purpose.

Also, any comments you wish to make that you think may help in future efforts to understand the global attitudes and knowledge of college students, will be appreciated, either here or in a separate letter.
Thank you for taking the time to complete this questionnaire. Please fold the questionnaire in half and put it in the envelope provided. Please return to:

Marcelle L. Stoll
Human Development and Family Sciences
Milam Hall 322
Oregon State University
Corvallis, OR 97331-5102

Your contribution to this effort is greatly appreciated. If you would like a summary of results, please print your name and address on the back of the return envelope (NOT on this questionnaire). I will see that you get it.
Answers to Global Knowledge Test

1. 1
2. 4
3. 3
4. 2
5. 3
6. 4
7. 1
8. 2
9. 3
10. 2
11. 3
12. 4
13. 1
14. 2
15. 3
16. 1
17. 4
18. 2
19. 3
20. 4
21. 1
22. 2
23. 4
24. 3
25. 2
26. 4
27. 1
APPENDIX B

Human Subjects Form
May 12, 1992

Principal Investigator:

The following project has been approved for exemption under the guidelines of Oregon State University's Committee for the Protection of Human Subjects and the U.S. Department of Health and Human Services:

Principal Investigator: Catherine R. Mumaw

Student's Name (if any): Marcelle Stoll

Department: Human Development & Family Sciences

Source of Funding:

Project Title: Global Understandings of College Students

Comments:

A copy of this information will be provided to the Chair of the Committee for the Protection of Human Subjects. If questions arise, you may be contacted further.

Redacted for privacy

Mary E. Nunn
Research Development Officer

cc: CPHS Chair
APPENDIX C
Cover Letter and Follow Up Letters
Dear Student:

Faculty at O.S.U. believe that the university needs to sharpen its international focus. This is demonstrated by the fact that students are now required to take classes in the areas of global issues and cultural diversity. However, no one really knows the global attitudes and knowledge of students at O.S.U.

You are one of several students who has been selected to participate in a study on global knowledge and attitudes. Your name was drawn from a random sample of three majors at O.S.U. Please complete the questionnaire and return it in the envelope provided. The survey will take approximately 30 minutes to complete. All information will remain confidential and will be coded without names and addresses. The numbers on the questionnaires will be used only for a follow-up of non-respondents.

You may receive a summary of results by writing "copy of results requested" on the back of the return envelope, and printing your name and address below it. Please do not put this information on the questionnaire itself.

Please return the completed questionnaire by November 6, 1992. Should you have any questions, you may reach the project director by phone at the number given below. Thank you for your time and assistance.

Sincerely,

Marcelle L. Stoll
Project Director
754-6937

Catherine R. Mumaw, Ph.D.
Associate Professor

Enclosures
Postcard Mailed to Students

October 26, 1992

Last week a questionnaire seeking your opinion about global knowledge and attitudes was mailed to you. Your name was drawn from a random sample of three majors at O.S.U.

If you have already completed and returned it please accept my sincere thanks. If not, please do so today. Because it was only sent to a small, but representative, sample of O.S.U. students it is extremely important that yours also be included in the study if the results are to accurately represent the opinions of O.S.U. students.

If by some chance you did not receive the questionnaire, or it has been misplaced, please call me right now (754-6937) and I will get another in the mail to you today.

Sincerely,

[Redacted for privacy]

Marcelle L. Stoll
Project Director
November 17, 1992

Dear Student:

About three weeks ago I wrote to you seeking your opinions on global knowledge and global attitudes. As of today, I have not yet received your completed questionnaire.

Each questionnaire plays a significant role in the usefulness of this study. In order for the results of this study to be truly representative of the opinions of students at O.S.U. it is essential that each person in the sample return their questionnaire.

Return your completed questionnaire and you will be eligible to enter a drawing for one of two $25 gift certificates at the O.S.U. Bookstore. Your identification number will be used in the drawing, which will be held in the presence of several faculty members. The winners will be notified by mail before Christmas Break.

In the event that your questionnaire has been misplaced, a replacement is enclosed. Please return the completed questionnaire by November 30, 1992. Your cooperation is greatly appreciated.

Sincerely,

Marcelle L. Stoll
Project Director

Catherine R. Mumaw, Ph.D.
Associate Professor

Enclosures