

DOCUMENT RESUME

ED 205 107

HE 014 133

AUTHOR Valiga, Michael J.
TITLE The Perceived Outcomes of Higher Education. AIR Forum
1981 Paper.
PUB DATE May 81
NOTE 36p.: Paper presented at the Annual Forum of the
Association for Institutional Research (21st,
Minneapolis, MN, May 17-19, 1981).
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Alumni: *College Graduates: Comparative Analysis:
*Educational Benefits: Graduate Surveys: Higher
Education: *Individual Development: Majors
(Students): Maturity (Individuals): *Outcomes of
Education: *Participant Satisfaction: Private
Colleges: School Surveys: State Colleges: *Student
Development
IDENTIFIERS *AIR Forum

ABSTRACT

Alumni impressions of the degree to which their college educations contributed to their personal growth in a number of outcome areas were assessed, in 1980-81 based on data collected at 36 colleges and universities. A total of 7,330 alumni records were examined, and the respondents ranged in age from 20 through over 65 years old, with a median age of 26.2 years. Respondents from public colleges accounted for 71.8 percent of the sample, while those from private colleges represented 28.2 percent. The large majority were enrolled primarily as full-time, in-state students. Using the American College Testing Program Alumni Survey, which is appended, it was found that alumni felt that their college educations contributed to their personal growth most strongly in areas such as learning on your own, working independently, and organizing your time effectively. These areas appear to be related to general learning skills, rather than areas related to specific academic subjects or skills. It is suggested that this finding tends to support the contention that college offers more than simple training in specific subject areas. The results also appear to indicate that students with different academic majors feel very differently about the outcomes of their programs. These differences are most pronounced in the scientific and mathematics-related outcome areas. The response differences between public college and private college alumni were less distinct than the differences among major areas. However, while private college respondents tended to rate their college experiences higher overall, public college alumni were more positive in their responses to the mathematics and science-related outcome areas. A bibliography is appended. (SW)

* Reproductions supplied by EDRS are the best that can be made
* from the original document.

ED 205 107

THE PERCEIVED OUTCOMES OF HIGHER EDUCATION

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

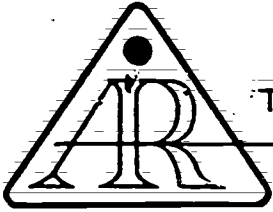
- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.
- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY
Association for
Institutional Research
TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

Michael J. Valiga
Program Specialist
The American College Testing Program
P. O. Box 168
Iowa City, Iowa 52243

Paper presented at the Annual Forum of the
Association for Institutional Research,
Minneapolis, Minnesota, May, 1981

HE 014 133



This paper was presented at the Twenty-First Annual Forum of the Association for Institutional Research held at the Leamington Hotel in Minneapolis, Minnesota, May 17-20, 1981. This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of Forum Papers.

Mary Corcoran
University of Minnesota
(Editor, AIR Forum Publications)

INTRODUCTION

Until recently, the American public tended to accept the value of a postsecondary education without question. Individuals who attended college typically obtained better jobs, were paid more, often became community leaders, and were generally considered to be "educated" persons. Since the financial benefits of a college education could be demonstrated, the affective outcomes of this education were seldom questioned.

Recent economic, political and educational trends have disturbed the public confidence in higher education. Many college graduates have had difficulty in finding employment, and a significant number have accepted relatively low-paying jobs. New postsecondary programs have prompted questions about the purpose and objectives of higher education. With more individuals attending college, the goals and outcomes of education have received increasing critical attention. Terms such as "accountability" and "educational impact" are frequently used when discussing the value of postsecondary educational programs. As a result of these trends, colleges are frequently called on to examine the outcomes of postsecondary education in a more detailed and comprehensive manner.

Perhaps the most appropriate point at which an institution may begin a study of its educational outcomes is with an examination of those individuals who have completed postsecondary degrees--the alumni of the institution. MacLean (1941) expressed the need to study alumni in the following manner:

The alumni and ex-students are our product. Only from them can we learn what they got from us, what we did to and for them that was right, wrong, of consequence, of inconsequence, fruitful or wasteful. Only by learning these things can we realize the program of higher education in America so that it may function, be effective, and win continued support. Only thus can we learn what to cut out of present programs and what to put into future ones.

In a more recent study, Toombs (1973) again emphasized the importance of alumni input in the study of the collegiate experience. In this study Toombs

argued that colleges must consider the employment prospects of its alumni when institutional programs are designed. The Iowa Department of Public Instruction has also recognized the need to include alumni information in the planning and evaluation of institutional programs, and has recently attempted to collect data for this purpose. In 1976, the Iowa Department of Public Instruction contracted with the American College Testing Program (ACT) to conduct a pilot study of employers attitudes regarding the vocational competency of recent vocational/technical school graduates. A more comprehensive study, involving a much larger number of graduates and employers is currently underway.

In addition to the Iowa studies, numerous alumni studies have been conducted. Pace (1941) conducted an extensive alumni survey dealing with job satisfaction, personal experiences, and personal opinions. Pace argued that: "Through a knowledge of the adult activities and needs of former students, the education of present students can be shaped more directly to meet the needs likely to characterize them as young adults." Bogue (1975) proposed that the state of Tennessee conduct a study of recent graduates of state institutions, and argued that:

"One of the most valuable sources of data available to colleges and universities on their performance is that provided by former graduates." The Tennessee Higher Education Commission subsequently conducted a survey of approximately 2,000 college graduates. Kapes (1978) studied the attitudes of employers regarding the competency of vocational/technical graduates in Pennsylvania. He found that Pennsylvania vocational/technical graduates appear to possess adequate job competencies, but should "be taught more personal relations skills and better job attitudes."

The purpose of this paper is to present a composite of the results of a number of individual studies which attempted to explore the outcomes of post-secondary education as perceived by college alumni. The paper deals primarily

with alumni impressions of the degree to which their college educations contributed to their personal growth in a number of outcome areas.

METHOD

Participants

Data for this paper were collected between January 1, 1980 and April 1, 1981 at 36 colleges and universities located throughout the United States. (Most of the participating institutions were located in the East and Midwest.) These institutions were not selected in a random manner; all institutions that voluntarily used the ACT Alumni Survey during 15 months time period indicated above were included in the study. The 36 colleges and universities included both public and private institutions offering degrees ranging from Associate of Arts through Doctor of Philosophy.

Each institution mailed the survey instruments to a sample of its recent alumni, and subsequently returned the forms to ACT for scanning and report preparation. The median response rate obtained by the 36 colleges and universities was approximately 60%. A total of 9640 alumni records were obtained in this manner, however, since the records from two institutions accounted for over 35% of the total number, 2310 records were randomly deleted to assure that no individual institution's data represented more than 10% of the total. In this manner, a total of 7330 alumni records were identified for inclusion in the study.

The alumni that responded to the survey ranged in age from 20 through "over 65" with a median age of 26.2 years. Men constituted 43.8% of the respondents, while women represented 56.2% of the total number. Respondents from public and private institutions accounted for 71.8% and 28.2% of the total sample, respectively. Over 92% of the respondents indicated they had been enrolled primarily as full-time students, and 87% indicated that they had been classified as "in-state" students.

Instrumentation

All data for the study were obtained using the ACT Alumni Survey (a copy of the instrument is attached to this paper). The instrument is a 4-page, optically scannable questionnaire containing a variety of items dealing with college experiences, employment history, current activities and demographic/background information. The instrument was designed to be administered to recent college alumni, and is intended "to assist postsecondary institutions in collecting alumni data to be used in institutional planning and development". The instrument contains 7 sections including sections for current mailing addresses, comments and suggestions, and additional questions designed by the institution. Without the additional questions the instrument requires approximately 20 minutes to complete. Each instrument was mailed with an institutional cover letter and a self-addressed, postage-paid return envelope.

The section of the instrument dealing with college experiences (Section III, Item I) provided the data presented in this paper. This section lists 24 areas of personal growth which are often claimed to be outcomes of postsecondary education. (These 24 outcome areas are presented in Table 1.) The alumni were asked to indicate the degree to which their college educations contributed to their personal growth in each of the 24 areas. Possible responses included "Very Much", "Somewhat", and "Very Little".

Procedures

Each institution that administered the ACT Alumni Survey identified the alumni to whom the instruments were mailed, conducted the mailing, and undertook any follow-up activities that college personnel elected to employ. The completed instruments were then sent to ACT for scanning and report preparation. The history file containing all alumni records scored by ACT between January 1, 1981, and April 1, 1981 served as the source of data for this study.

Data were analyzed for the total group of respondents and by major areas, type of institution (public vs private), sex, racial group, and number of years since graduation. In particular, the following subgroups of respondents were identified for analysis:

- Physical Science Majors (including Biological Science, Mathematics, Chemistry, Physics, Computer Science, Engineering, and other related sciences) N = 849
- Social Science Majors (including Fine Arts, Applied Arts, Foreign Languages, Letters, Community Services, Social Services, and other related areas) N = 2268
- Business and Commerce Majors N = 891
- Education Majors N = 1820
- Health Profession Majors N = 768
- Public College Alumni N = 5264
- Private College Alumni N = 2066
- Males N = 3195
- Females N = 4095
- Recent Alumni (0-4 years since graduation) N = 4831
- Older Alumni (5 or more years since graduation) N = 2465
- White Students N = 6892
- All Minorities N = 288

The primary statistical method used in the study involved the simple ranking of outcome areas by the percentage of students selecting either the "Very Much" or the "Very Little" response to each area (see Tables 2 through 10).

Additional analyses, employing the χ^2 goodness-of-fit statistic and the test for differences between two proportions, were conducted to explore the differences in responses for the various subgroups listed above.

RESULTS

Rankings of the 24 outcome areas by the percentages of all respondents indicating that their college educations contributed "Very Much" or "Very Little" to their personal growth in the area, are presented in Tables 2 and 3. The first four outcome areas listed in Table 2 ("Very Much" contribution to personal growth) include Working independently, Learning on your own, Persisting at difficult tasks and Organizing your time effectively. The outcome areas which respondents felt were least influenced by their college educations (Table 3) included Managing personal/family finances, Understanding and applying mathematics in your daily activities and Understanding consumer issues.

Tables 4 through 8 present the rankings of the 10 highest outcome areas in terms of the percentage of "Very Much" and "Very Little" responses, for the five subgroups based on college major. For the Physical Sciences and Health Profession subgroups, the outcome area with the highest rating was Understanding and applying scientific principles and methods. For the other three subgroups based on college major, the outcome area with the highest rating was Working independently. The outcome areas which respondents felt were least influenced by their college educations included Understanding consumer issues (Physical Science Majors), Understanding and applying mathematics in your daily activities (Social Science and Education Majors), Caring for your own physical and mental health (Business Majors) and Managing personal/family finances (Health Profession Majors).

Tables 9 and 10 present the rankings of the 10 highest outcome areas in terms of the percentage of "Very Much" and "Very Little" responses, for the public college and private college subgroups. These tables exhibit only minor differences

in the overall rankings for the public and private subgroups. The percentage of respondents providing positive responses was generally higher overall, however, for private college alumni.

Tables 11 through 14 provide comparisons among the various college major area subgroups and between the public and private college subgroups. Outcome areas which exhibited the largest differences for the major area subgroups included Understanding and applying scientific principles and methods, Understanding and appreciating the arts, Understanding and applying mathematics in your daily activities, Understanding consumer issues, and Managing personal/family finances. The areas which exhibited the largest differences between public and private college alumni were Understanding different philosophies and cultures and Understanding and appreciating the arts.

The analysis of the male and female subgroups revealed few differences in the overall rankings of the outcome items. The female subgroup, however, had significantly ($p < .001$) higher percentages of "Very Much" responses for six outcome areas:

- Caring for your own physical and mental health.
- Working cooperatively in a group.
- Organizing your time effectively.
- Planning and carrying out projects.
- Leading/guiding others.
- Understanding and appreciating the arts.

The male subgroup had significantly ($p < .001$) higher percentages of "Very Much" responses in three outcome areas:

- Understanding graphic information.
- Understanding and applying scientific principles and methods.
- Understanding and applying mathematics in your daily activities.

As was the case for the male and female subgroups, the analysis for the recent alumni and older alumni subgroups revealed few differences in the rankings of outcome areas. There were a number of areas, however, in which the recent alumni group selected a significantly higher percentage of "Very Much" responses:

- Writing effectively.
- Managing personal/family finances.
- Understanding consumer issues.
- Caring for your own physical and mental health.
- Understanding the interaction of man and the environment.

The analysis by racial group revealed very few significant differences due to the small number (N = 288) of minority group alumni included in the sample. Two areas in which minority group alumni selected a significantly higher percentage of "Very Much" responses were:

- Using the library.
- Understanding consumer issues.

The minority subgroup selected significantly fewer "Very Much" responses for the outcome area Understanding and appreciating the arts.

DISCUSSION AND CONCLUSIONS

The data from the study suggest that alumni of postsecondary institutions feel their college educations have contributed to their personal growth most strongly in areas such as Learning on your own, Working independently and Organizing your time effectively. These areas appear to be related to general learning skills, rather than areas related to specific academic subjects or skills. This finding tends to support the contention that college offers more than simple training in specific subject areas.

Due to the noticeable differences among the results for various major-area subgroups, it appears that students with different academic majors feel very differently about the outcomes of their programs. These differences are most pronounced in the scientific and mathematics-related outcome areas. The response differences between public college and private college alumni are less distinct than the differences among major areas. Nevertheless, while private college respondents tended to rate their college experiences higher overall, public college alumni were more positive in their responses to the mathematics and science-related outcome areas.

While significant differences did occur between the race subgroups, sex subgroups and subgroups based on the number of years since graduation, many of these differences appear to be related to the different academic areas with which these groups are affiliated. Further research (including analysis with covariates) is needed in these areas.

TABLE 1

AREAS OF EDUCATIONAL GROWTH INCLUDED IN THE ACT ALUMNI SURVEY

1. Writing effectively.
2. Speaking effectively.
3. Understanding written information.
4. Working independently.
5. Managing personal/family finances.
6. Learning on your own.
7. Understanding graphic information.
8. Using the library.
9. Following directions.
10. Understanding consumer issues.
11. Caring for your own physical and mental health.
12. Working cooperatively in a group.
13. Organizing your time effectively.
14. Recognizing your rights, responsibilities, and privileges as a citizen.
15. Planning and carrying out projects.
16. Understanding and applying mathematics in your daily activities.
17. Understanding different philosophies and cultures.
18. Persisting at difficult tasks.
19. Defining and solving problems.
20. Understanding the interaction of man and the environment.
21. Leading/guiding others.
22. Recognizing assumptions, and making logical inferences, and reaching correct conclusions.
23. Understanding and appreciating the arts.
24. Understanding and applying scientific principles and methods.

TABLE 2

Percentage of respondents indicating that their college educations contributed "Very Much" to their personal growth in each outcome area.

<u>% "Very Much"</u>	<u>Outcome Area</u>
54.1	Working independently.
51.0	Learning on your own.
45.0	Persisting at difficult tasks.
43.1	Organizing your time effectively.
40.7	Understanding written information.
40.2	Planning and carrying out projects.
40.0	Defining and solving problems.
37.8	Working cooperatively in a group.
37.6	Using the library.
34.9	Understanding different philosophies and cultures.
34.3	Recognizing assumptions, and making logical inferences, and reaching correct conclusions.
33.6	Leading/guiding others.
32.3	Understanding and appreciating the arts.
30.6	Writing effectively.
30.6	Speaking effectively.
29.3	Following directions.
27.7	Caring for your own physical and mental health.
27.6	Understanding the interaction of man and the environment.
27.5	Understanding and applying scientific principles and methods.
21.1	Understanding graphic information.
20.2	Recognizing your rights, responsibilities, and privileges as a citizen.
16.7	Managing personal/family finances.
15.5	Understanding and applying mathematics in your daily activities.
13.7	Understanding consumer issues.

TABLE 3

Percentages of respondents indicating that their college educations contributed "Very Little" to their personal growth in each outcome area.

<u>% "Very Little"</u>	<u>Outcome Area</u>
48.1	Managing personal/family finances.
47.6	Understanding and applying mathematics in your daily activities.
47.3	Understanding consumer issues.
35.8	Recognizing your rights, responsibilities, and privileges as a citizen.
33.3	Caring for your own physical and mental health.
29.5	Understanding and applying scientific principles and methods.
29.0	Understanding graphic information.
28.3	Understanding and appreciating the arts.
26.3	Understanding the interaction of man and the environment.
22.7	Understanding different philosophies and cultures.
21.8	Following directions.
21.0	Leading/guiding others.
20.1	Writing effectively.
19.2	Using the library.
18.8	Speaking effectively.
15.1	Working cooperatively in a group.
14.7	Organizing your time effectively.
14.1	Recognizing assumptions, and making logical inferences, and reaching correct conclusions.
11.8	Planning and carrying out projects.
11.7	Understanding written information.
11.7	Persisting at difficult tasks.
10.9	Defining and solving problems.
10.3	Working independently.
9.7	Learning on your own.

123

TABLE 4

PHYSICAL SCIENCE MAJORS

Outcome areas with the highest percentages of respondents indicating that their college educations contributed "Very Much" or "Very Little" to their personal growth in the area.

<u>% "Very Much"</u>	<u>Outcome Area</u>
63.0	Understanding and applying scientific principles and methods.
55.4	Working independently.
55.4	Learning on your own.
51.4	Defining and solving problems.
45.9	Persisting at difficult tasks.
44.9	Recognizing assumptions, and making logical inferences, and reaching correct conclusions.
44.1	Organizing your time effectively.
43.3	Understanding written information.
37.2	Planning and carrying out projects.
34.9	Understanding and applying mathematics in your daily activities.
<u>% "Very Little"</u>	<u>Outcome Area</u>
55.7	Understanding consumer issues.
46.1	Managing personal/family finances.
40.0	Recognizing your rights, responsibilities, and privileges as a citizen.
35.5	Caring for your own physical and mental health.
26.7	Understanding and applying mathematics in your daily activities.
24.5	Leading/guiding others.
23.7	Understanding and appreciating the arts.
22.4	Following directions.
22.4	Speaking effectively.
21.6	Writing effectively.
21.6	Using the library.

TABLE 5

SOCIAL SCIENCES MAJORS

Outcome areas with the highest percentages of respondents indicating that their college education contributed "Very Much" or "Very Little" to their personal growth in the area.

<u>% "Very Much"</u>	<u>Outcome Area</u>
56.7	Working independently.
52.0	Learning on your own.
49.1	Understanding different philosophies and cultures.
47.7	Persisting at difficult tasks.
45.1	Understanding written information.
43.8	Understanding and appreciating the arts.
42.9	Planning and carrying out projects.
41.3	Organizing your time effectively.
41.0	Using the library.
40.0	Defining and solving problems.
<u>% "Very Little"</u>	<u>Outcome Area</u>
65.9	Understanding and applying mathematics in your daily activities.
54.1	Managing personal/family finances.
51.4	Understanding consumer issues.
42.2	Understanding and applying scientific principles and methods.
37.4	Caring for your own physical and mental health.
33.5	Recognizing your rights, responsibilities, and privileges as a citizen.
32.0	Understanding graphic information.
24.0	Following directions.
23.0	Understanding the interaction of man and the environment.
21.3	Leading/guiding others.

TABLE 6

BUSINESS MAJORS

Outcome areas with the highest percentages of respondents indicating that their college educations contributed "Very Much" or "Very Little" to their personal growth in the area.

% "Very Much"Outcome Area

53.3	Working independently.
49.0	Learning on your own.
42.0	Defining and solving problems.
39.6	Persisting at difficult tasks.
39.6	Understanding written information.
38.4	Organizing your time effectively.
37.6	Working cooperatively in a group.
37.4	Managing personal/family finances.
37.0	Planning and carrying out projects.
34.9	Writing effectively.

% "Very Little"Outcome Area

40.2	Caring for your own physical and mental health.
37.1	Understanding and appreciating the arts.
32.9	Understanding and applying scientific principles and methods.
31.3	Recognizing your rights, responsibilities, and privileges as a citizen.
31.0	Understanding the interaction of man and the environment.
27.6	Understanding different philosophies and cultures.
24.8	Understanding and applying mathematics in your daily activities.
23.9	Understanding graphic information.
23.9	Using the library.
23.7	Leading/guiding others.

TABLE 7

EDUCATION MAJORS

Outcome areas with the highest percentages of respondents indicating that their college educations contributed "Very Much" or "Very Little" to their personal growth in the area.

% "Very Much"Outcome Area

53.7	Working independently.
50.6	Learning on your own.
47.5	Organizing your time effectively.
45.1	Working cooperatively in a group.
44.6	Planning and carrying out projects.
44.0	Leading/guiding others.
42.7	Persisting at difficult tasks.
40.8	Using the library.
38.7	Understanding and appreciating the arts.
35.4	Understanding written information.

% "Very Little"Outcome Area

52.7	Understanding and applying mathematics in your daily activities.
51.2	Managing personal/family finances.
48.8	Understanding consumer issues.
36.8	Understanding and applying scientific principles and methods.
36.3	Understanding graphic information.
30.5	Recognizing your rights, responsibilities, and privileges as a citizen.
29.2	Caring for your own physical and mental health.
25.2	Understanding the interaction of man and the environment.
21.5	Following directions.
20.2	Understanding and appreciating the arts.

TABLE 8

HEALTH PROFESSION MAJORS

Outcome areas with the highest percentages of respondents indicating that their college educations contributed "Very Much" or "Very Little" to their personal growth in the area.

<u>% "Very Much"</u>	<u>Outcome Area</u>
58.2	Understanding and applying scientific principles and methods.
54.8	Working independently.
52.1	Learning in your own.
49.0	Persisting at difficult tasks.
46.4	Defining and solving problems.
45.2	Organizing your time effectively.
43.9	Caring for your own physical and mental health.
38.9	Understanding written information.
38.2	Using the library.
37.4	Working cooperatively in a group.
<u>% "Very Little"</u>	<u>Outcome Area</u>
58.1	Managing personal/family finances.
56.3	Understanding consumer issues.
56.3	Understanding and appreciating the arts.
50.4	Recognizing your rights, responsibilities, and privileges as a citizen.
45.1	Understanding different philosophies and cultures.
38.9	Understanding and applying mathematics in your daily activities.
36.8	Understanding the interaction of man and the environment.
35.0	Writing effectively.
28.9	Speaking effectively.
28.6	Leading/guiding others.

TABLE 9

PUBLIC COLLEGE RESPONDENTS

Outcome areas with the highest percentages of respondents indicating that their college education contributed "Very Much" or "Very Little" to their personal growth in the area.

<u>% "Very Much"</u>	<u>Outcome Area</u>
52.2	Working independently.
48.9	Learning on your own.
42.3	Persisting at difficult tasks.
42.0	Organizing your time effectively.
39.5	Defining and solving problems.
38.8	Understanding written information.
38.2	Planning and carrying out projects.
37.3	Using the library.
36.6	Working cooperatively in a group.
33.7	Recognizing assumptions, and making logical inferences, and reaching correct conclusions.
<u>% "Very Little"</u>	<u>Outcome Area</u>
47.4	Managing personal/family finances.
44.6	Understanding consumer issues.
44.0	Understanding and applying mathematics in your daily activities.
37.3	Recognizing your rights, responsibilities, and privileges as a citizen.
33.8	Understanding and appreciating the arts.
33.3	Caring for your own physical and mental health.
29.0	Understanding graphic information.
27.5	Understanding the interaction of man and the environment.
26.8	Understanding different philosophies and cultures.
26.8	Understanding and applying scientific principles and methods.

TABLE 10

PRIVATE COLLEGE RESPONDENTS

Outcome areas with the highest percentages of respondents indicating that their college educations contributed "Very Much" or "Very Little" to their personal growth in the area.

<u>% "Very Much"</u>	<u>Outcome Area</u>
59.0	Working independently.
56.3	Learning on your own.
51.6	Persisting at difficult tasks.
50.0	Understanding different philosophies and cultures.
45.8	Organizing your time effectively.
45.5	Understanding written information.
45.5	Understanding and appreciating the arts.
45.5	Planning and carrying out projects.
41.2	Defining and solving problems.
40.9	Working cooperatively in a group.
<u>% "Very Little"</u>	<u>Outcome Area</u>
56.8	Understanding and applying mathematics in your daily activities.
53.9	Understanding consumer issues.
49.7	Managing personal/family finances.
36.3	Understanding and applying scientific principles and methods.
33.3	Caring for your own physical and mental health.
31.8	Recognizing your rights, responsibilities, and privileges as a citizen.
29.0	Understanding graphic information.
23.2	Understanding the interaction of man and the environment.
19.6	Following directions.
18.8	Using the library.

TABLE 11

Outcome areas with the largest variation* by major area in the percent of respondents indicating that their college education contributed "Very Much" to their personal growth in the area.

Outcome Area	Physical Sciences	Social Sciences	Business	Education	Health Profession
Writing effectively.	24.9	38.8	34.9	29.5	16.5
Speaking effectively.	25.3	37.0	27.5	34.4	17.4
Managing personal/family finances.	15.5	13.3	37.4	14.2	12.2
Understanding graphic information.	31.2	20.3	23.3	13.4	23.7
Understanding consumer issues.	7.9	13.0	33.1	10.3	6.9
Caring for your own physical and mental health.	23.2	23.6	19.6	31.7	43.9
Understanding and applying mathematics in your daily activities.	34.9	5.7	29.0	9.5	16.7
Understanding different philosophies and cultures.	33.9	49.1	28.6	31.6	16.5
Defining and solving problems.	51.4	40.0	42.0	31.6	46.4
Leading/guiding others.	28.0	35.2	26.3	44.0	26.3
Recognizing assumptions, and making logical inferences, and reaching correct conclusions.	44.9	36.6	34.7	26.2	35.9
Understanding and appreciating the arts.	28.9	43.8	20.0	38.7	12.1
Understanding and applying scientific principles and methods.	63.0	14.7	15.3	15.3	58.2
Total Frequencies	849	2268	891	1820	768

*All differences in percentages for various major areas are significant at the .0001 level using a χ^2 goodness of fit significance test.

TABLE 12

Outcome areas with the largest variation* by major area in the percent of respondents indicating that their college educations contributed "Very Little" to their personal growth in the area.

Outcome Area	Physical Sciences	Social Sciences	Business	Education	Health Profession
Writing effectively.	21.6	16.5	14.7	17.3	35.0
Managing personal/family finances.	46.1	54.1	22.1	51.2	58.1
Understanding graphic information.	17.3	32.0	23.9	36.3	26.3
Understanding consumer issues.	55.7	51.4	22.8	48.8	56.3
Recognizing your rights, responsibilities, and privileges as a citizen.	40.0	33.5	31.3	30.5	50.4
Understanding and applying mathematics in your daily activities.	26.7	65.9	24.8	52.7	38.9
Understanding different philosophies and cultures.	20.6	13.4	27.6	19.7	45.1
Understanding and appreciating the arts.	23.7	18.1	37.1	20.2	56.3
Understanding and applying scientific principles and methods.	6.9	42.2	32.9	36.8	5.7
Total Frequencies	849	2268	891	1820	768

*All differences in percentages for various major areas are significant at the .0001 level using a χ^2 goodness of fit significance test.

TABLE 13

Outcome areas with large significant differences* between the percentages of public college respondents and private college respondents indicating that their college educations contributed "Very Much" to their personal growth in the area.

<u>Outcome Area</u>	<u>Public College Respondents</u>	<u>Private College Respondents</u>
Writing effectively.	28.0	37.4
Speaking effectively.	27.8	37.6
Learning in your own.	48.9	56.3
Planning and carrying out projects.	38.2	45.5
Understanding different philosophies and cultures.	29.0	50.0
Persisting at difficult tasks.	42.3	51.6
Leading/guiding others.	31.6	38.7
Understanding and appreciating the arts.	27.1	45.5
Understanding and applying scientific principles and methods.	29.7	22.2
Total Frequencies	5264	2066

*All differences in percentages are significant at the .0001 level.

TABLE 14

Outcome areas with large significant differences* between the percentages of public college respondents and private college respondents indicating that their college educations contributed "Very-Little" to their personal growth in the area.

Outcome Area	Public College Respondents	Private College Respondents
Writing effectively.	22.3	14.5
Understanding consumer issues.	44.6	53.9
Understanding and applying mathematics in your daily activities.	44.0	56.8
Understanding different philosophies and cultures.	26.8	12.3
Understanding and appreciating the arts.	33.8	14.4
Understanding and applying scientific principles and methods.	26.8	36.3
Total Frequencies	5264	2066

*All differences in percentages are significant at the .0001 level.

SELECTED BIBLIOGRAPHY

- Bessai, J., McIntyre, C.J. The Development and Use of the Program Evaluation Survey (PES). Office of Institutional Resources, The University of Illinois, 1977.
- Bogue, E.G. A Preliminary Proposal for a Survey of Recent College Graduates presented to the Tennessee Higher Education Commission, 1975.
- Cascio, W.F. Accuracy of Verifiable Biographical Information Blank Responses, Journal of Applied Psychology, Vol. 60, No. 6, 767-769, 1975.
- Kapes, J.T. Employer Attitudes Toward Voc. Ed. Graduates, Programs, Phi Delta Kappan, 1978, 60(2), 136-137.
- MacLean, M.S. Editor's Foreword to They Went to College: a Study of 951 Former University Students, by Pace, C.P., Ann Arbor, Michigan: University Microfilms, 1941.
- Micek, S.S., Service, A.L., Lee, Y.S. Outcome Measures and Procedures Manual, Technical report #70. Boulder: the National Center for Higher Education Management Systems at WICHE, 1975.
- Munday, L.A., Fenske, R.H., Maxey, E.J. An exploration of college senior satisfaction: Its nature, institutional relationships, and correlates. Unpublished manuscript, American College Testing Program, 1972.
- Pace, C.R. They Went to College: a Study of 951 Former University Students. Ann Arbor: University Microfilms, 1941.
- Panos, J.R., Astin, A.W. They Went to College: A Descriptive Summary of the Class of 1965, The American Council of Education, Research Report, Vol. 2, No. 5, 1967.
- Toombs, W. The Comm-Bacc Study: Post-baccalaureate Activities of Degree Recipients from Pennsylvania Institutions 1971-1972. The Center for the Study of Higher Education Report 23, Pennsylvania State University, University Park, Pennsylvania, 1973.
- Walsh, W.B. Validity of self-report. Journal of Counseling Psychology, 1967, 14, 18-23.

LIST OF COLLEGE MAJORS AND OCCUPATIONAL CHOICES

Since we could not list all possible occupations and programs of study, you may not be able to find an exact description of the one that applies to you. If that is the case, you should select a general area—for example, 100 (Agricultural Fields); 200 (Engineering Fields); 220 (Fine and Applied Arts).

If you are completely undecided about your answer, mark 000.

- | | | |
|---|---|--|
| 000 Undecided | 194 Secondary Education, general | 275 Linguistics |
| 100 AGRICULTURE , general | 195 Social Science Education | 276 Literature, English |
| 101 Agricultural Business | 196 Special Education | 277 Philosophy |
| 102 Agricultural Economics | 197 Speech Education | 278 Religion and Theology |
| 103 Agricultural and Farm Management (farming and ranching) | 198 Student Guidance and Counseling | 279 Speech, Debate, Forensic Science |
| 104 Agriculture, Forestry, and Wildlife Technologies | 200 ENGINEERING , general | 280 MATHEMATICS , general |
| 105 Agronomy (field crops and crop management) | 201 Aerospace, Aeronautical, and Astronautical Engineering | 281 Applied Mathematics |
| 106 Animal Science (husbandry) | 202 Agricultural Engineering | 282 Statistics (mathematical and theoretical) |
| 107 Fish, Game, and Wildlife Management | 203 Architectural Engineering | 285 PHYSICAL SCIENCE , general |
| 108 Food Science and Technology | 204 Chemical Engineering | 286 Astronomy |
| 109 Forestry | 205 Civil Engineering | 287 Chemistry |
| 110 Horticulture/Ornamental Horticulture | 206 Electrical, Electronics, and Communications Engineering | 288 Earth Sciences |
| 111 Natural Resources Management (soil conservation) | 207 Environmental and Ecological Engineering | 289 Geology |
| 120 ARCHITECTURE , general | 208 Geological Engineering | 290 Oceanography |
| 121 Architecture Technology | 209 Industrial and/or Management Engineering | 291 Physics |
| 122 City, Community, and Regional Planning | 210 Mechanical Engineering | 300 COMMUNITY SERVICE , general |
| 123 Environmental Design, general | 211 Metallurgical and Materials Engineering | 301 Criminal Justice and Law Enforcement (police science, corrections, etc.) |
| 124 Interior Design | 212 Mining and Mineral Engineering | 302 Parks and Recreation Management |
| 125 Landscape Architecture | 213 Nuclear Engineering | 303 Public Administration |
| 130 BIOLOGICAL SCIENCES , general | 214 Ocean Engineering | 304 Social Work |
| 131 Biology | 215 Petroleum Engineering | 305 Military |
| 132 Biochemistry | 220 FINE AND APPLIED ARTS , general | 310 SOCIAL SCIENCES , general |
| 133 Botany | 221 Applied Design (ceramics, weaving, commercial art) | 311 Anthropology |
| 134 Ecology | 222 Art (painting, drawing, sculpture) | 312 Area Studies (American civilization, American studies, etc.) |
| 135 Microbiology | 223 Art History and Appreciation | Criminal Justice (see code 301) |
| 136 Zoology | 224 Dance | 313 Economics |
| 140 BUSINESS AND COMMERCE , general | 225 Dramatic Arts (theater arts) | 314 Ethnic Studies (Asian studies, Black studies, Chicano studies, etc.) |
| 141 Accounting | 226 Music (liberal arts) | 315 Geography |
| 142 Banking and Finance | 227 Music (performing, composition, theory) | 316 History |
| 143 Business Economics | 228 Music History and Appreciation | 317 International Relations |
| 144 Business Management and Administration | 229 Photography/Cinematography | 318 Law (prelaw) |
| 145 Food Marketing | 230 FOREIGN LANGUAGES , general | 319 Political Science |
| 146 Hotel and Restaurant Management | 231 French | 320 Psychology |
| 147 Labor and Industrial Relations | 232 German | 321 Sociology |
| 148 Office Management | 233 Italian | 330 TRADE, INDUSTRIAL, AND TECHNICAL , general |
| 149 Marketing and Purchasing (sales and retailing) | 234 Latin | 331 Agricultural Mechanics and Technology |
| 150 Real Estate and Insurance | 235 Spanish | 332 Air Conditioning, Refrigeration, and Heating Technology |
| 151 Recreation and Tourism | 236 Russian | 333 Aeronautical and Aviation Technology |
| 152 Secretarial Studies | 240 HEALTH PROFESSIONS , general | 334 Appliance Repair |
| 153 Transportation and Public Utilities | 241 Dentistry | 335 Automobile Body Repair |
| 160 COMMUNICATIONS , general | 242 Dental Assistant | 336 Automobile Mechanics |
| 151 Journalism | 243 Dental Hygiene | 337 Business Machine Maintenance |
| 162 Radio/Television (related to broadcasting) | 244 Dental Lab Technology | 338 Carpentry and Construction |
| 163 Advertising | 245 Environmental Health Technologies | 339 Drafting/Engineering Graphics |
| 164 Library Science | 246 Medicine, general | 340 Electricity and Electronics |
| 170 COMPUTER AND INFORMATION SCIENCES , general | 247 Medical Assistant or Medical Office Assistant | 341 Engineering Technology—Aeronautical |
| 171 Computer Programming | 248 Medical or Laboratory Technology | 342 Engineering Technology—Automotive |
| 172 Information Systems and Sciences | 249 Nursing (registered) | 343 Engineering Technology—Civil |
| 173 Systems Analysis | 250 Nursing (licensed practical nurse) | 344 Engineering Technology—Industrial/Manufacturing |
| 174 Data Processing Technology | 251 Occupational Therapy | 345 Engineering Technology—Mechanical |
| 175 Computer Operating | 252 Optometry | 346 Graphic Arts (printing, typesetting) |
| 176 Data Systems Repair | 253 Pharmacy | 347 Heavy Equipment, Operating |
| 180 EDUCATION , general | 254 Physical Therapy | 348 Dry Cleaning, Laundry, and Clothing Technology |
| 181 Agricultural Education | 255 Public Health | 349 Industrial Arts |
| 182 Art Education | 256 Radiology | 350 Leatherworking (shoe repair, etc.) |
| 183 Business, Commerce, and Distributive Education | 257 X-ray Technology | 351 Machinework (tool and die, etc.) |
| 184 Educational Administration | 258 Surgical Technology (surgeon's assistant, etc.) | 352 Masonry (brick, cement, stone, etc.) |
| 185 Elementary Education | 259 Veterinary Medicine | 353 Metalworking |
| 186 English Education | 260 HOME ECONOMICS , general | 354 Plumbing and Pipefitting |
| 187 Home Economics Education | 261 Clothing and Textiles | 355 Radio/TV Repair |
| 188 Industrial Arts, Vocational/Technical Education | 262 Consumer Economics and Home Management | 356 Small Engine Repair |
| 189 Mathematics Education | 263 Family Relations and Child Development | 357 Upholstery |
| 190 Music Education | 264 Foods and Nutrition (including Dietetics) | 358 Watch Repair and Other Instrument Maintenance and Repair |
| 191 Physical Education | 265 Institutional Management | 359 Welding |
| 192 Postsecondary Education, general | 270 LETTERS (humanities), general | 360 Woodworking (cabinetmaking, millwork) |
| 193 Science Education | 271 Classics | 370 GENERAL STUDIES |
| | 272 Comparative Literature | |
| | 273 Creative Writing | |
| | 274 English, general | |

ALUMNI SURVEY

DIRECTIONS: The information you supply on this questionnaire will be kept completely confidential. However, if any item requests information that you do not wish to provide, please feel free to omit it. Your Social Security number is requested for research purposes only and will not be listed on any report.

use a ball-point pen, nylon-tip or felt-tip pen, fountain pen, marker, or colored pencil. Some items may not be applicable to you or to this college. If this is the case, skip the item or mark the "Does Not Apply" option. If you wish to change your response to an item, erase your first mark completely and then blacken the correct oval. Do not mark more than ONE response per item unless you are instructed to do so.

Please use a soft (No. 1 or 2) lead pencil to fill in the oval indicating your response. DO NOT

SECTION I—BACKGROUND INFORMATION

Begin by writing your Social Security number in the large boxes at the top of Block A. Then, in the column below each box, blacken the appropriate oval. Complete the remain-

ing blocks by blackening the single most appropriate oval in each case.

A SOCIAL SECURITY NUMBER (Identification Number) <table border="1"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> </table>											0	1	2	3	4	5	6	7	8	9	B AGE <input type="radio"/> 20 or under <input type="radio"/> 21 or 22 <input type="radio"/> 23 or 24 <input type="radio"/> 25 or 26 <input type="radio"/> 27 to 29 <input type="radio"/> 30 to 39 <input type="radio"/> 40 to 61 <input type="radio"/> 62 or over	C RACIAL/ETHNIC GROUP <input type="radio"/> Afro American-Black <input type="radio"/> American Indian or Alaskan Native <input type="radio"/> Caucasian-American-White <input type="radio"/> Mexican-American-Chicano <input type="radio"/> Asian American, Oriental, or Pacific Islander <input type="radio"/> Puerto Rican, Cuban, or Other Hispanic Origin <input type="radio"/> Other <input type="radio"/> Prefer Not to Respond	D HOW MANY YEARS HAS IT BEEN SINCE YOU GRADUATED FROM THIS COLLEGE? (To the Nearest Year) <input type="radio"/> Less Than 1 Year <input type="radio"/> 1 Year <input type="radio"/> 2 Years <input type="radio"/> 3 Years <input type="radio"/> 4 Years <input type="radio"/> 5 to 9 Years <input type="radio"/> 10 or More Years	E INDICATE THE HIGHEST DEGREE YOU NOW HOLD <input type="radio"/> Associate Degree <input type="radio"/> Bachelor's Degree <input type="radio"/> Master's Degree <input type="radio"/> Doctor's Degree <input type="radio"/> Professional Degree <input type="radio"/> Other	F INDICATE YOUR MAJOR AT THIS COLLEGE <table border="1"> <tr><td> </td><td> </td><td> </td></tr> </table> <p>Using the List of College Majors and Occupational Choices included with this questionnaire, find the 3 digit code for your college major, write it in the boxes above, and then blacken the appropriate oval in the column below each box.</p>			
0	1	2	3	4	5	6	7	8	9																			

G SEX <input type="radio"/> Male <input type="radio"/> Female	H WHAT WAS YOUR PRIMARY ENROLLMENT STATUS AT THIS COLLEGE? <input type="radio"/> Full-Time Student <input type="radio"/> Part-Time Student	I WERE YOU MARRIED AT THE TIME YOU ATTENDED THIS COLLEGE? <input type="radio"/> Yes <input type="radio"/> No	J WHAT WAS YOUR RESIDENCE CLASSIFICATION AT THIS COLLEGE? <input type="radio"/> In-State Student <input type="radio"/> Out-of-State Student <input type="radio"/> International Student (Not U.S. Citizen)	K HOW MANY YEARS DID YOU ATTEND THIS COLLEGE (To the Nearest Year) <input type="radio"/> 1 Year <input type="radio"/> 2 Years <input type="radio"/> 3 Years <input type="radio"/> 4 Years <input type="radio"/> 5 or More Years	L WHERE DO YOU CURRENTLY LIVE? <input type="radio"/> In the State in Which This College is Located <input type="radio"/> In Another State or Country	M DO YOU PLAN TO ATTEND THIS COLLEGE IN THE FUTURE? <input type="radio"/> Yes <input type="radio"/> Undecided <input type="radio"/> No
--	---	---	--	---	---	--

SECTION II—CONTINUING EDUCATION

Complete this section only if you have continued your formal education since graduating from this college. If you have not, skip to Section III.

A WHAT IS THE MAJOR REASON YOU CONTINUED YOUR EDUCATION? (Mark Only ONE Oval) <input type="radio"/> To Satisfy Job Career Requirements <input type="radio"/> To Earn a New Occupation <input type="radio"/> To Increase Earning Power <input type="radio"/> To Obtain or Maintain a License or Certification <input type="radio"/> General Self-Improvement	B MAJOR AREA OF STUDY SINCE GRADUATING FROM THIS COLLEGE <table border="1"> <tr><td> </td><td> </td><td> </td></tr> </table> <p>Use the List of College Majors and Occupational Choices to indicate your most recent area of study.</p>				C HOW WELL DID THIS COLLEGE PREPARE YOU FOR YOUR CONTINUING EDUCATION? <input type="radio"/> Exceptionally Well <input type="radio"/> More Than Adequately <input type="radio"/> Adequately <input type="radio"/> Less Than Adequately <input type="radio"/> Very Poorly	D WHAT IS THE HIGHEST DEGREE YOU PLAN TO OBTAIN? <input type="radio"/> Associate Degree <input type="radio"/> Bachelor's Degree <input type="radio"/> Master's Degree <input type="radio"/> Doctor's Degree <input type="radio"/> Professional Degree <input type="radio"/> Other <input type="radio"/> I Do Not Plan to Obtain Another Degree	E HOW MANY CREDIT HOURS HAVE YOU EARNED SINCE GRADUATING FROM THIS COLLEGE? <input type="radio"/> 10 or Fewer <input type="radio"/> 11 to 20 <input type="radio"/> 21 to 30 <input type="radio"/> 31 to 40 <input type="radio"/> 41 to 50 <input type="radio"/> 51 to 60 <input type="radio"/> Over 60 <input type="radio"/> I Am Not Taking Courses for Credit	F WHAT HAS BEEN YOUR PRIMARY ENROLLMENT STATUS DURING YOUR CONTINUING EDUCATION? <input type="radio"/> Full-Time Student <input type="radio"/> Part-Time Student

SECTION III—COLLEGE EXPERIENCES

Please complete each of the following questions related to your education at this college.

DO NOT TEAR OR STAPLE THIS FORM

A INDICATE YOUR RATING OF THIS COLLEGE AT THE TIME YOU APPLIED FOR ADMISSION

It Was My First Choice
 It Was My Second Choice
 It Was My Third Choice
 It Was My Fourth Choice or Lower

B IF YOU COULD START COLLEGE OVER, WOULD YOU CHOOSE TO ATTEND THIS COLLEGE?

Definitely Yes
 Probably Yes
 Uncertain
 Probably No
 Definitely No

C IF YOU COULD START COLLEGE OVER, WOULD YOU CHOOSE TO GRADUATE WITH THE SAME MAJOR?

Definitely Yes
 Probably Yes
 Uncertain
 Probably No
 Definitely No

D HOW WOULD YOU COMPARE THE QUALITY OF EDUCATION PROVIDED AT THIS COLLEGE WITH THAT OF OTHER COLLEGES?

Better
 About the Same
 Worse
 Unable to Judge

E REGARDLESS OF THE FINANCIAL BENEFITS, HAS YOUR COLLEGE EDUCATION IMPROVED THE QUALITY OF YOUR LIFE?

Definitely Yes
 Probably Yes
 Uncertain
 Probably No
 Definitely No

F WHAT WAS YOUR PRIMARY REASON FOR ATTENDING THIS COLLEGE? (Blacken Only ONE Oval)

Cost
 Admissions Standards
 Size
 Social Atmosphere
 Location
 Type of Programs Available
 Academic Reputation
 Availability of Scholarship or Financial Aid
 Advice of Parents or Relatives
 Advice of High School Personnel
 To Be with Friends
 Other

G INDICATE WHETHER EACH OF THE FOLLOWING WAS A MAJOR SOURCE, MINOR SOURCE, OR NOT A SOURCE OF FUNDS FOR YOUR COLLEGE EDUCATION

MAJOR SOURCE
 MINOR SOURCE
 NOT A SOURCE

Parents or Relatives
 Personal Savings
 Summer Employment
 Employment at College
 Spouse
 VA Benefits
 Social Security Benefits
 Student Loans (NDSE, etc.)
 Scholarships
 Educational Grants (BEOG, SEOG, etc.)

H RATE EACH OF THE FOLLOWING ALUMNI ASSOCIATION PROGRAMS AND SERVICES AT THIS COLLEGE

VERY GOOD
 FAIR
 POOR
 NO OPINION
 DOES NOT APPLY

Publications
 Homecoming Activities
 Fund Raising Programs
 Chapter Meetings
 Tour Programs

I HOW MUCH DID YOUR EDUCATION AT THIS COLLEGE CONTRIBUTE TO YOUR PERSONAL GROWTH IN EACH OF THE FOLLOWING AREAS?

VERY MUCH
 SOMEWHAT
 VERY LITTLE

<input type="radio"/> <input type="radio"/> <input type="radio"/>	1 Writing effectively
<input type="radio"/> <input type="radio"/> <input type="radio"/>	2 Speaking effectively
<input type="radio"/> <input type="radio"/> <input type="radio"/>	3 Understanding written information
<input type="radio"/> <input type="radio"/> <input type="radio"/>	4 Working independently
<input type="radio"/> <input type="radio"/> <input type="radio"/>	5 Managing personal/family finances
<input type="radio"/> <input type="radio"/> <input type="radio"/>	6 Learning on your own
<input type="radio"/> <input type="radio"/> <input type="radio"/>	7 Understanding graphic information
<input type="radio"/> <input type="radio"/> <input type="radio"/>	8 Using the library
<input type="radio"/> <input type="radio"/> <input type="radio"/>	9 Following directions
<input type="radio"/> <input type="radio"/> <input type="radio"/>	10 Understanding consumer issues
<input type="radio"/> <input type="radio"/> <input type="radio"/>	11 Caring for your own physical and mental health
<input type="radio"/> <input type="radio"/> <input type="radio"/>	12 Working cooperatively in a group
<input type="radio"/> <input type="radio"/> <input type="radio"/>	13 Organizing your time effectively
<input type="radio"/> <input type="radio"/> <input type="radio"/>	14 Recognizing your rights, responsibilities, and privileges as a citizen
<input type="radio"/> <input type="radio"/> <input type="radio"/>	15 Planning and carrying out projects
<input type="radio"/> <input type="radio"/> <input type="radio"/>	16 Understanding and applying mathematics in your daily activities
<input type="radio"/> <input type="radio"/> <input type="radio"/>	17 Understanding different philosophies and cultures
<input type="radio"/> <input type="radio"/> <input type="radio"/>	18 Persisting at difficult tasks
<input type="radio"/> <input type="radio"/> <input type="radio"/>	19 Defining and solving problems
<input type="radio"/> <input type="radio"/> <input type="radio"/>	20 Understanding the interaction of man and the environment
<input type="radio"/> <input type="radio"/> <input type="radio"/>	21 Leading/guiding others
<input type="radio"/> <input type="radio"/> <input type="radio"/>	22 Recognizing assumptions, and making logical inferences, and reaching correct conclusions
<input type="radio"/> <input type="radio"/> <input type="radio"/>	23 Understanding and appreciating the arts
<input type="radio"/> <input type="radio"/> <input type="radio"/>	24 Understanding and applying scientific principles and methods

SECTION IV—EMPLOYMENT HISTORY

Please respond to the following questions related to your employment since you graduated from this college. Complete only the parts of this section that apply to you

PART A: TO BE COMPLETED BY ALL ALUMNI	PART B: COMPLETE THE FOLLOWING QUESTIONS ONLY IF YOU HAVE EVER HELD A FULL-TIME JOB SINCE GRADUATING FROM THIS COLLEGE		
<p>A</p> <p>WHICH OF THE FOLLOWING BEST DESCRIBES WHAT YOU ARE CURRENTLY DOING? (Blacken Only ONE Oval)</p> <p><input type="radio"/> Employed Full Time <input type="radio"/> Employed Part Time <input type="radio"/> Self-Employed (Farm or Business Owner, etc.) <input type="radio"/> Serving in the Armed Forces <input type="radio"/> Continuing My Education <input type="radio"/> Employed and Continuing My Education <input type="radio"/> Caring for a Home/Family <input type="radio"/> Unemployed <input type="radio"/> Other</p>	<p>B</p> <p>FROM WHICH SOURCE DID YOU LEARN ABOUT THE FIRST JOB YOU HELD AFTER GRADUATING FROM THIS COLLEGE? (Blacken Only ONE Oval)</p> <p><input type="radio"/> College Placement Office <input type="radio"/> College Counselor/Adviser <input type="radio"/> Faculty at the College <input type="radio"/> Parent or Relative <input type="radio"/> Newspaper/Trade Publication <input type="radio"/> Professional Meeting <input type="radio"/> Another Student/Friend <input type="radio"/> Recruited by Employer <input type="radio"/> Public/Private Employment Agency <input type="radio"/> Other</p>	<p>C</p> <p>INDICATE WHETHER EACH OF THE FOLLOWING WAS A MAJOR PROBLEM, MINOR PROBLEM, OR NOT A PROBLEM IN OBTAINING YOUR FIRST JOB AFTER GRADUATION</p> <p style="text-align: center;"> <input type="checkbox"/> MAJOR PROBLEM <input type="checkbox"/> MINOR PROBLEM <input type="checkbox"/> NOT A PROBLEM </p> <p><input type="checkbox"/> Deciding What I Wanted to Do <input type="checkbox"/> Knowing How to Find Job Openings <input type="checkbox"/> Scheduling Interviews <input type="checkbox"/> Writing a Resume, Vita, or Letter of Introduction <input type="checkbox"/> Finding a Job That Paid Enough <input type="checkbox"/> Completing Job Applications <input type="checkbox"/> Finding a Job for Which I Was Trained <input type="checkbox"/> Finding a Job Where I Wanted to Live <input type="checkbox"/> Finding the Kind of Job I Wanted <input type="checkbox"/> Race/Sex Discrimination</p>	<p>D</p> <p>WHAT WAS YOUR ANNUAL SALARY/INCOME IN THE FIRST JOB YOU HELD AFTER COLLEGE?</p> <p><input type="radio"/> Less than \$6,000 <input type="radio"/> \$6,000 to \$8,999 <input type="radio"/> \$9,000 to \$11,999 <input type="radio"/> \$12,000 to \$14,999 <input type="radio"/> \$15,000 to \$17,999 <input type="radio"/> \$18,000 to \$20,999 <input type="radio"/> \$21,000 to \$23,999 <input type="radio"/> \$24,000 to \$26,999 <input type="radio"/> \$27,000 to \$29,999 <input type="radio"/> \$30,000 to \$39,999 <input type="radio"/> \$40,000 to \$50,000 <input type="radio"/> Over \$50,000</p>

PART B: CONTINUED		PART C: COMPLETE THESE QUESTIONS ONLY IF YOU ARE CURRENTLY UNEMPLOYED		
<p>E</p> <p>HOW LONG DID IT TAKE YOU TO OBTAIN YOUR FIRST FULL-TIME JOB AFTER LEAVING THIS COLLEGE?</p> <p><input type="radio"/> Obtained the Job Prior to Leaving College <input type="radio"/> Less Than One Month <input type="radio"/> 1 to 3 Months <input type="radio"/> 4 to 6 Months <input type="radio"/> 7 to 12 Months <input type="radio"/> Over 12 Months</p>	<p>F</p> <p>INDICATE THE NUMBER OF FULL-TIME JOBS YOU HAVE HELD SINCE LEAVING THIS COLLEGE</p> <p><input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 or More</p>	<p>G</p> <p>INDICATE THE PRIMARY REASON YOU ARE NOW UNEMPLOYED</p> <p><input type="radio"/> Have Been Unable to Find a Full-Time Job Since College <input type="radio"/> Was Laid Off by Employer <input type="radio"/> Quit to Find Another Job <input type="radio"/> Health/Personal Reasons <input type="radio"/> Do Not Desire Employment at This Time <input type="radio"/> Other</p>	<p>H</p> <p>HOW LONG HAVE YOU ACTIVELY BEEN SEEKING EMPLOYMENT?</p> <p><input type="radio"/> Not Seeking Employment <input type="radio"/> Less Than 1 Month <input type="radio"/> 1 to 3 Months <input type="radio"/> 4 to 6 Months <input type="radio"/> 7 to 12 Months <input type="radio"/> Over 12 Months</p>	<p>I</p> <p>HAVE YOU SOUGHT HELP FROM THIS COLLEGE'S PLACEMENT OFFICE?</p> <p><input type="radio"/> Yes, It Has Been Helpful <input type="radio"/> Yes, but It Has Not Been Helpful <input type="radio"/> No</p>

PART D: COMPLETE THESE QUESTIONS ONLY IF YOU ARE CURRENTLY EMPLOYED					
<p>J</p> <p>INDICATE YOUR CURRENT OCCUPATION</p> <p>Use the List of College Majors and Occupational Choices to indicate your current occupation</p>	<p>K</p> <p>WHAT IS YOUR CURRENT ANNUAL SALARY/INCOME?</p> <p><input type="radio"/> Less than \$6,000 <input type="radio"/> \$6,000 to \$8,999 <input type="radio"/> \$9,000 to \$11,999 <input type="radio"/> \$12,000 to \$14,999 <input type="radio"/> \$15,000 to \$17,999 <input type="radio"/> \$18,000 to \$20,999 <input type="radio"/> \$21,000 to \$23,999 <input type="radio"/> \$24,000 to \$26,999 <input type="radio"/> \$27,000 to \$29,999 <input type="radio"/> \$30,000 to \$39,999 <input type="radio"/> \$40,000 to \$50,000 <input type="radio"/> Over \$50,000</p>	<p>L</p> <p>HOW WELL DID THIS COLLEGE PREPARE YOU FOR YOUR PRESENT OCCUPATION?</p> <p><input type="radio"/> Very Well <input type="radio"/> Adequately <input type="radio"/> Poorly <input type="radio"/> Not at All</p>	<p>M</p> <p>HOW CLOSELY RELATED IS YOUR CURRENT OCCUPATION TO YOUR MAJOR AT THIS COLLEGE?</p> <p><input type="radio"/> Highly Related <input type="radio"/> Moderately Related <input type="radio"/> Slightly Related <input type="radio"/> Not Related</p>	<p>N</p> <p>DO YOU FEEL YOU ARE CURRENTLY UNDEREMPLOYED?</p> <p><input type="radio"/> Yes <input type="radio"/> No</p>	<p>O</p> <p>INDICATE YOUR SATISFACTION WITH THE FOLLOWING ASPECTS OF YOUR PRESENT JOB</p> <p style="text-align: center;"> <input type="checkbox"/> VERY SATISFIED <input type="checkbox"/> SATISFIED <input type="checkbox"/> NEUTRAL <input type="checkbox"/> DISSATISFIED <input type="checkbox"/> VERY DISSATISFIED </p> <p><input type="radio"/> Challenge <input type="radio"/> Location <input type="radio"/> Salary and Benefits <input type="radio"/> Advancement Potential <input type="radio"/> Working Conditions <input type="radio"/> Career Potential</p>

GRADE 4
 MAKE NO STRAY MARKS ON THIS FORM

SECTION V—ADDITIONAL QUESTIONS

If an additional set of multiple-choice questions is included with this form, please use this section to record your responses. Twelve ovals are provided for each question, but

few questions require that many choices. Simply ignore the extra ovals. If no additional questions are enclosed, leave this section blank.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

SECTION VI—MAILING ADDRESSES

PLEASE PRINT YOUR NAME AND CURRENT ADDRESS ON THE LINES PROVIDED BELOW.

PLEASE PRINT THE NAME AND ADDRESS OF SOMEONE WHO CAN FORWARD MAIL TO YOU, SHOULD YOU MOVE.

PLEASE PRINT YOUR CURRENT BUSINESS ADDRESS ON THE LINES PROVIDED BELOW.

 First Name MI Maiden Name Last Name

 Street Address P.O. Box

 City

 State Zip Code

 Name

 Street Address P.O. Box

 City

 State Zip Code

 Name of Organization

 Street Address P.O. Box

 City

 State Zip Code

SECTION VII—COMMENTS AND SUGGESTIONS

If you wish to make any comments or suggestions concerning this college, please use the lines provided below.

DO NOT WRITE BELOW THIS LINE.