Alumni Satisfaction

Gerald M. Gillmore
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REPORT OVERVIEW

Surveys sent to alumni five and ten years after graduation contained 46 items relating to satisfaction with various aspects of UW education (see OEA Report 98-8 for the specific methodology). Nine distinct scales were developed from these items based on correlational patterns and content similarity; a Global Satisfaction score was computed by averaging over all items.

Scale Averages

The scale exhibiting the greatest relative satisfaction was Writing, with an average of 3.69 on the five point scale. The next three highest rated scales were Citizenship (3.58), Major (3.54), and Scientific Reasoning (3.53). The average for Information was 3.30. Group and Culture were essentially rated equally (3.19 and 3.18, respectively). Two scales were rated below the natural midpoint: Advising at 2.66 and Beyond the Classroom at 2.60. Considerable variation within each scale was also evident.

Relationship among Items and Scales

Items and scales tended to be positively intercorrelated. The reliability of the Global Satisfaction scale was .94. Correlations among scales ranged from .24 to .58.

Satisfaction and Choosing UW Again

Over 75% of the respondents indicated that they would choose to attend UW again, while fewer than 10% disagreed or strongly disagreed with the statement. Global satisfaction correlated positively with the extent of agreement (.58). The most predictive scale was Citizenship, followed by Major.

Length of Time since Graduation

For every scale, the five year alumni gave higher average ratings that the ten year alumni. The largest difference was for Group, for which the five-year average was 0.20 scale points higher. The difference accounted for 1.6% of the total variance of ratings for this scale.

Advanced Degree Earned

Generally, the differences in the averages between alumni who had earned subsequent advanced degrees and those who had not were very small and most did not reach statistical significance. The largest difference was for the Major scale, with alumni with higher degrees showing greater satisfaction, and this difference accounting for 2.1% of the total scale variance.

Minority Status

Respondents were categorized as Caucasian, Asian, or Other. Differences in averages among the three groups tended to be small and non-significant. The two largest differences were on Writing and Citizenship, for both of which Caucasians had the highest average satisfaction, followed by the Other category, with Asian students having the lowest average. The differences among the three groups accounted for about one percent of the total variance on both of these scales.

Differences among Majors

Global satisfaction, as measured by all 46 items, did not differ significantly across the six major areas studied. However, significant differences were found on all scales except Beyond the Classroom, which was rated fairly low by students in all majors. The largest difference was found on the Scientific Reasoning scale, accounting for 14.2% of the variance. Engineering majors, followed closely by Natural Science majors, had the highest average on this scale.

Gender Across Majors

Average Global satisfaction of males and females was essentially identical. However, there were significant differences on seven of the nine scales. Females exhibited a greater average satisfaction for Culture, Group, Citizenship, and Writing, while males' averages were significantly higher for Advising, Scientific Reasoning, and Information.

Gender within Majors

Major areas differentially attract males and females. When controlling for major, essentially all of the gender differences disappeared. However, major differences remained when controlled for gender. Thus it appears that while major area has an influence on satisfaction, gender, *per se*, does not.

Conclusions

Alumni definitely expressed differential satisfaction, both as individuals and in relation to the content of items and scales, but the independent variables studied failed to explain much of these differences. The largest effects were generally associated with major area, but even here there were no significant differences across all items. The small but consistently higher ratings by five-year alumni may be reflective of improvement in UW programs.

METHOD AND PURPOSE

This research is based on a survey of University of Washington (UW) alumni who had graduated with bachelor's degrees five and ten years previously. The methodology, survey instrument, response rates, and response frequencies for this survey are found in OEA Report 98-8. Among the items to which the alumni responded were 46 items, found within four sections, that asked respondents to rate their satisfaction with various aspects of their education. The purpose of this report is to present comparisons of ratings among alumni subgroups to improve our understanding of the determinants of satisfaction.

The Items and Scales

The items were contained in four sections with the following item stems. A single bolded term follows each stem and is used subsequently to identify items.

- How satisfied are you with the University of Washington's contribution to your development? [**Contribution**]

- Compared to what you needed, how sufficient was your exposure to these opportunities and practices while at the University of Washington? [**Exposure**]

- With regard to each of the following, how satisfied are you with the undergraduate education you received at UW? [**Education**]

- How well did your University of Washington experience prepare you for: [**Preparation**]

All items used the following response categories and numerical weights:

Not at all	Little	Somewhat	Mostly	Very
1	2	3	4	5

Factor analysis was used to aid in the development of smaller scales. Factor loadings were produced by a principal components solution followed by varimax rotations. The collection of items that loaded highest on each factor were assessed for meaningful content. The nine-factor solution, which accounted for 59.3% of the total variance was chosen as the one that made most conceptual sense.

The resulting scales items along with their reliability (Cronbach's alpha) are found in Table 1. The mean and standard deviation, computed across all respondents, is listed in italics after each item.

Two items are found on no scales: Satisfaction with development on working and/or learning independently and Satisfaction with undergraduate education in regard to quality of instruction outside of the major. However, because the two items relate to important aspects of UW education, they were included in the average of all items.

Scale Averages

In Figure 1, the average for each scale is presented. Even though each scale consists of several items, some sense of relative satisfaction can be gained by inspection of these averages. The scale exhibiting the greatest satisfaction was Writing, with an average of 3.69. The next three highest rated scales are

clustered together: Citizenship (3.58), Major (3.54), and Scientific Reasoning (3.53). The average for Information was 3.30. Group and Culture were essentially rated equally (3.19 and 3.18, respectively). Two scales were rated below the natural midpoint: Advising at 2.66 and Beyond the Classroom at 2.60.

Figure 1. Scale averages +/- one standard deviation
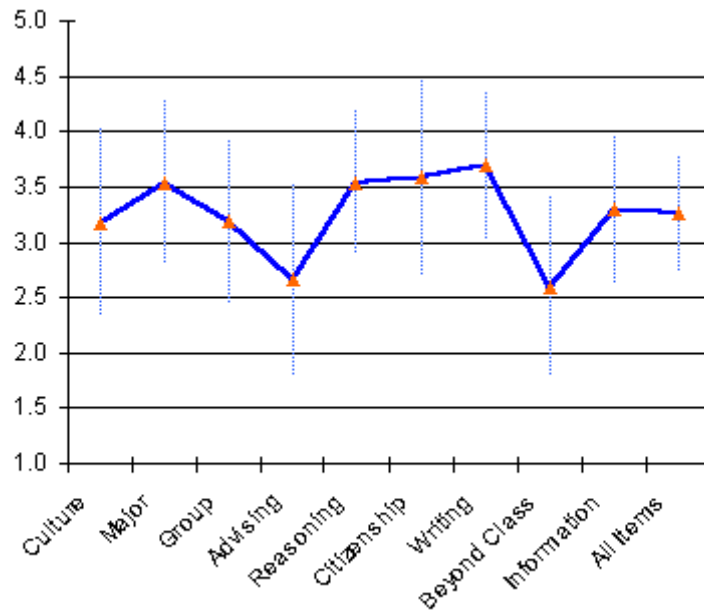
One can see from the error bars of plus and minus one standard deviation that there was also considerable variation in ratings on all of the scales. Furthermore, some scales showed considerable variation in the means of their items. Information is a notable example, containing the highest rated item: *Quality of library services* **[Education]**, and one of the lowest rated items: *Computer/internet opportunities and/or practice* **[Exposure]**. Nonetheless, the differences in average scale ratings across all respondents was highly significant (F = 842.40, p <.001).

In Table 2, a frequency distribution is presented for the Global Satisfaction Scale, which consists of the average of all 46 items for each respondent. To create this frequency distribution, averages were grouped into ranges of one-half scale points. It should be noted that only respondents who responded to all items were included - no scale value for an alumnus was computed if there were one or more omissions. For the overall scale, complete data are available for 1849 (59%) of the 3135 respondents. One can see from Table 2 that about two-thirds of the respondents averaged between 2.75 and 3.75 in their ratings. Sixteen percent fell below this value and 17.7 percent fell above it.

Relationship among Items and Scales

As can be inferred from the high reliability of the scale formed by all satisfaction items (0.94), these items tended to intercorrelate positively across all respondents. The first factor of the Principal Components Factor Analysis accounted for 22.3% of the total variance. In addition, all items showed positive factor loadings on that first, unrotated factor.

Similarly, the nine constructed scales were positively intercorrelated ([Table 3](#)). The magnitude of these correlations varies from r = .58 between Major and Scientific Reasoning to r = .24 between Citizenship and Beyond the Classroom. Clearly, alumni who were satisfied with some aspects of their UW education tended to be satisfied with all, and vice versa.

Satisfaction and Choosing UW Again

Alumni were asked: *If I had to make my college choice over again, I would choose to attend UW*. The response categories and percentages of responses to each are found in [Table 4](#), which shows that over 75% of the respondents would choose to attend UW. Fewer than 10% disagreed or strongly disagreed.

In [Table 5](#), we display the correlation between responses to this item and to the scales. Also displayed are the beta weights that resulted from using Multiple Regression, with Choosing UW Again as the dependent variable and the scales as predictor variables. In interpreting the beta weights the reader needs to keep in mind that the scales are positively intercorrelated (multicollinearity).

The correlation between Global Satisfaction and Choosing UW Again of r = .58 indicates that alumni who were more satisfied were more apt to be positive about attending UW again, which is hardly surprising. The corresponding multiple correlation was .62, which is a very small increment over the simple correlation, showing the positive relationship across all scales. Stretching a little, what the scale correlations and beta weights indicate is that the two most important components in predicting the choice to attend UW again were the scales labeled Citizenship and Major. Recall that the former consists of ratings of satisfaction with preparation for everyday life, contributing to society, and life-long learning.

Length of Time since Graduation

Two groups were surveyed: those who had graduated five years prior to the survey and those who had graduated ten years prior to the survey. [Table 6](#) presents the means, the results of t-tests of significance, and the percentage of variance explained by the mean differences (*Eta Squared*) for each scale.

Generally, the differences between the two groups were not large, but in every case, the five year alumni gave higher average ratings that the ten year. The largest difference was for Group, which was 0.20 scale points and accounted for 1.6% of the total variance of ratings for this scale. Information was the next largest difference, followed by Writing. The smallest difference was for Advising (.02) followed by Scientific Reasoning (.05).

How can we explain these differences? Given that our data are cross-sectional rather than longitudinal, we cannot dismiss the hypotheses that the two cohorts were different in factors that relate to satisfaction, for example, perhaps the five year group was inherently less critical than the ten year group due to intervening cultural changes. Two other possible explanations are that UW educational programs improved between the years or that satisfaction tends to lessen with the passage of time. In a previous study (OEA Report N-96-6), Gillmore compared alumni ratings, all done one year after graduation, for graduates of 1989-90, 1991, and 1993. He found a clear trend toward greater satisfaction. Since all alumni were surveyed at the same interval from their graduation, this result suggests that higher ratings may reflect improved programs.

Advanced Degree Earned

Across all respondents, 72.8% had not obtained an advanced degree subsequent to their UW Bachelor's degree at the time they completed the survey. Among those remaining, 17.7% had obtained a Master's degree, 2.6% a medical degree, 3.6% a law degree, and 1.2% a PhD or EdD. Alumni were split into two groups based on whether they had earned an advanced degree of any sort or not. In Table 7, the average ratings of the two groups on the satisfaction scales are compared.

Generally, the differences in the averages are very small and most do not even reach statistical significance. There was no significant difference on the Global scale. The largest difference was for the Major scale, and this difference accounted for 2.1% of the total scale variance. Alumni with higher degrees showed greater satisfaction, on average, which is consistent with expectations since it is the major that usually contributes most to the preparation for advanced education. Furthermore, greater satisfaction with experiences relating to one's major might be expected to lead to the desire for more education. On the other hand, the Group scale showed significantly higher average satisfaction ratings for bachelor's degree recipients (but accounted for only 0.3% of the variance). This result may be reflective of the world of work being more group-oriented than the world of advanced education.

Minority Status

Respondents were classified according to the UW's coding system into the following ethnic groups:

African American (n = 64)	Hispanic (n = 74)
Asian American (n = 358)	Native American (n = 27)
Caucasian (n = 2353)	Other (n = 205)

The overwhelming majority of respondents (over 75%) were Caucasian. The only other group of large enough size for comparisons was Asians. Thus, we formed a third group by combining Hispanics, African Americans, Native Americans and Others, and labeled this third group Other. We do not wish to imply by combining these groups that they are indistinguishable among themselves. In Table 8, satisfaction ratings are compared for the three groups.

For this comparison, six of the comparisons yielded no significant differences, including the Global satisfaction rating. Even for two of the significant differences, the differences were small and each accounted for only three-tenths of a percent of the variance. The two largest differences were Writing and Citizenship, for both of which Caucasians had the highest average satisfaction, followed by the Other category, with Asian students having the lowest average. The differences among the three groups accounted for about one percent of the total variance on both of these scales.

Differences among Majors

In earlier studies of alumni ratings of competence, importance, and impact on 17 abilities (OEA Report 98-11 and OEA Report 99-01), the following six major areas were defined and compared: Business, Engineering, Natural Science, Social Science, Humanities, and Arts. We will make the same

comparisons, using the same inclusion criteria in this study. Table 9 presents the average ratings within each of the major areas and F-tests of statistical significance.

Global satisfaction, as measured by the 46 items, did not differ significantly across the six major areas. However, significant differences were found within all scales except Beyond the Classroom, which was rated fairly low by students within all majors. The largest difference was found on the Scientific Reasoning scale, accounting for 14.2% of the data. Engineering majors, followed closely by Natural Science majors exhibited the highest average. Humanities majors followed by Arts majors showed the least satisfaction on the Scientific Reasoning items.

Differences among major areas accounted for 4.5% of the Information scale variance. The averages for Humanities and Arts majors were lower than the other four major areas. On the Writing scale, Humanities majors showed the most satisfaction, with Natural Science and Engineering the least. For the remaining scales, major area accounted for less than two percent of the variance.

Gender Across Majors

Table 10 presents a comparison of the average ratings of males and females. One can see from this table that the Global satisfaction ratings of the two groups were essentially identical. However, significant differences were found on seven of the nine scales. The percent of the variance explained by gender was 1.2 or less. Females exhibited a larger average satisfaction for Culture, Group, Citizenship, and Writing, while males' averages were significantly higher for Advising, Scientific Reasoning, and Information.

Gender within Majors

In an earlier study of the results of surveys of alumni one year after graduation (OEA Report 95-2), Gillmore found that most differences between the satisfaction ratings of males and females largely disappeared when one controlled for differential choice of majors. The number of male and female respondents within each major area is presented in Table 11. Clearly, some of these major areas attracted relatively more females (Humanities and Arts) and some relatively more males (Engineering).

To determine the effects of major area on differences in average ratings between females and males, we computed separate t-tests within each major area for each scale. Of the 60 resulting t-values (ten scales times six major areas), only four comparisons reached significance at the .05 level or beyond. The significant differences were found for Group within Business and for Culture, Major, and Writing within Social Science. In all four cases the female ratings were higher than the male ratings. However, by chance alone, one would except three significant differences (five percent of 60). Thus, one can conclude that these results essentially replicate the earlier study and that apparent gender differences in satisfaction are largely an artifact of differential participation in certain major areas.

One can offer the opposite hypotheses, that differences in ratings across majors will be negated by controlling for the gender composition of each major. To determine the effects of gender on differences across major area, we computed one-way analyses of variance for each scale within males and within females. For males, all differences were significant except on Global and Beyond the Classroom, just as was found for the analyses combining both genders. For females, all differences were significant except

Global, Beyond the Classroom, and Major. The shapes of the averages were similar across the two genders. Thus it appears that major area has an influence on satisfaction, but gender, *per se*, does not.

CONCLUSIONS

How satisfied are the UW alumni with the education they received? Perhaps the best overall assessment of this comes from the items that asked for their agreement with: *If I had to make my college choice over again, I would choose to attend UW*. Overall, 75% of the respondents agreed or strongly agreed with this statement and less than 10% disagreed, which seems to be a strong UW affirmation. It is also interesting that among the scales, the best predictor of choosing UW again was the scale labeled Citizenship which consists of ratings of satisfaction with preparation for everyday life, contributing to society, and life-long learning. The content of these items all reflect critically important but less tangible outcomes of a higher education (as opposed to job training).

However, when one looks at the ratings of specific items, considerable variation can be seen. For example, the highest rated individual item was *Quality of library services*, with a mean of 4.23 on a five-point scale, while the lowest rated item was *Assistance in finding employment*, with a mean of 2.12. Thus, looking across all respondents, alumni definitely expressed differential satisfaction.

At the scale level, the least satisfaction was expressed for the scales labeled Advising and Beyond the classroom. Both scales have to do with activities outside the classroom walls and that are not associated with academic classes. The former relates to interacting with and getting help from faculty and other staff. The latter relates to working with faculty and the community in more of a co-equal setting. Both of these scales remind us that there is more to a college education than sitting through classes, and it these aspects with which the alumni tended to feel the least satisfaction.

The other side of the coin is that respondents showed a great deal of individual variation in their satisfaction, but the independent variables studied did not tend to explain much of these differences. This result was especially true in regard to the Global Satisfaction score. This score was constructed by averaging over all 46 satisfaction items, and as a scale, it was highly reliable. Thus, as a composite measure it appears to be meaningful and not just an arbitrary function of the particular items we happened to choose. Yet, no significant differences were found for this variable except years since graduation -- not by gender, advanced degree, major area, or ethnicity.

For years since graduation (five or ten), the difference on the Global scale, as well as all other significant differences, was in the direction of more satisfaction from the five-year alumni. Because the survey methodology was cross-sectional in nature, we cannot draw any certain conclusions from this result. However, collaborative research (OEA Report N-96-6) at least makes it possible that this increase reflects an improvement in quality at UW that took place over these years.

Specific scales did show some significant differences. Most of these differences were small in terms of explained variance, and the differences between males and females essentially disappeared when the area of the major was taken into account. Of the variables studied, the largest predictor of differential satisfaction was the area of the major, and the largest difference was on the Scientific Reasoning scale. If one looks at the items that make up this scale, with their emphasis on science and the quantitative, there is a clear bias toward the sciences and engineering. Thus, it is not surprising that Natural Science and

Engineering majors expressed the greatest satisfaction and Humanities majors expressed the least. Business majors exhibited the greatest satisfaction on the Group scale. The Culture scale shows Arts majors with the highest satisfaction, and Engineering students with the lowest. Humanities majors had the highest satisfaction on the Writing scale. We could go on, but the point to be made is that the differences -- where they exist -- tend to be predictable. But, with the possible exception of Scientific Reasoning, they do not tend to be large. The area of the major certainly has an impact on satisfaction with some specific attributes of the UW experience, but there appears to be a great deal more that influences alumni feelings of satisfaction that we do not yet have a handle on.

TABLES

Table 1. The Scales

Culture (*alpha* = .78)

  1. Using a foreign language [**Contribution**] (*2.59, 1.36*)

  2. Understanding and appreciating the arts [**Contribution**] (*3.19, 1.21*)

  3. Understanding and appreciating diverse philosophies and cultures [**Contribution**] (*3.45, 1.10*)

  4. Understanding the interaction of society and the environment [**Contribution**] (*3.29, 1.07*)

  5. Using the broad range of knowledge, ideas, or perspectives gained from outside your major field [**Contribution**] (*3.37, .97*)

Major (*alpha* = .72)

  1. Using the knowledge, ideas, or perspectives gained from your major field [**Contribution**](*3.72, 0.98*)

  2. Practical applications of course work in your major field to job and/or education [**Sufficiency**] (*2.93, 1.07*)

  3. Quality of instruction in your major field [**Education**] (*4.09, 0.81*

  4. Graduate school [**Preparation**] (*3.57, 1.08*)

  5. Current or most recent job [**Preparation**] (*3.42, 1.05*)

Group (*alpha* = .82)

  1. Speaking effectively [**Contribution**] (*3.16, 1.12*)

  2. Woking cooperatively in a group [**Contribution**] (*3.39, 1.05*)

  3. Using managementn/leadership capabilities [**Contribution**] (*2.81, 1.11*)

  4. Group/team projects [**Sufficiency**] (*3.37, 0.98*)

  5. Oral presentations [**Sufficiency**] (*2.99, 1.01*)

  6. Group discussions [**Sufficiency**] (*3.41, 0.92*)

Advising (*alpha* = .81)

  1. Quality of academic experiences outside of the classroom [**Education**] (*3.38, 1.05*)

  2. Interaction with faculty outside of the classroom [**Education**] (*2.77, 1.16*)

  3. Assistance by faculty in pursuing your career [**Education**] (*2.47, 1.25*)

  4. Assistance in finding employment [**Education**] (*2.12, 1.19*)

  5. Advising and other student services [**Education**] (*2.62, 1.11*)

Reasoning (*alpha* = .82)

1. Defining and solving problems [**Contribution**] (*3.73, 0.91*)

2. Understanding and applying scientific principles and methods [**Contribution**] (*3.42, 1.09*)

3. Understanding and applying quantitative principles and methods [**Contribution**] (*3.38, 1.09*)

4. Opportunities to do math and other quantitative analyses [**Sufficiency**] (*3.70, 0.91*)

5. Opportunities to think critically about knowledge and how it is produced [**Sufficiency**] (*3.62, 0.81*)

6. Opportunities to define and solve problems [**Sufficiency**] (*3.69, 0.81*)

7. Lab work and other classroom "Learning by doing" opportunities [**Sufficiency**] (*3.20, 0.97*)

Citizenship (*alpha* = .85)

1. Everyday life [**Preparation**] (*3.47, 1.02*)

2. Contributing to society [**Preparation**] (*3.43, 1.02*)

3. Life-long learning [**Preparation**] (*3.84, 0.94*)

Writing (*alpha* = .75)

1. Writing effectively [**Contribution**] (*3.69, 1.01*)

2. Critically analyzing written material [**Contribution**] (*3.72, 0.92*)

3. Writing opportunities [**Sufficiency**] (*3.70, 0.85*)

Beyond the Classroom (*alpha* = .69)

1. Working on a professor's research project and/or publishing project [**Sufficiency**] (*2.14, 1.26*)

2. Informal contact with professors outside of class [**Sufficiency**] (*2.58. 1.11*)

3. Working with or learning about diverse cultures and people [**Sufficiency**] (*3.19, 1.04*)

4. Community service opportunities [**Sufficiency**] (*2.53, 1.19*)

Information (*alpha* = .70)

1. Working effectively with modern technology, especially computers [**Contribution**] (*2.78, 1.21*)

2. Locating information needed to help make decisions or solve problems [**Contribution**] (*3.49, 0.99*)

3. Finding information in libraries and/or networked resources [**Sufficiency**] (*3.63, 0.88*)

4. Computer/internet opportunities and/or practice [**Sufficiency**] (*2.38, 1.06*)

5. Quality of library services [**Education**] (*4.23, 0.79*)

Return

Table 2. Frequency distribution of the Global Satisfaction scale

Label	Range	Midpoint	Percentage	Cumulative Percentage
Not at all	1.00 - 1.25	1.0	0.0	0.0
	1.25 - 1.75	1.5	0.6	0.6
Little	1.75 - 2.25	2.0	2.4	3.0
	2.25 - 2.75	2.5	13.0	16.1
Somewhat	2.75 - 3.25	3.0	32.6	48.7
	3.25 - 3.75	3.5	33.6	82.3
Mostly	3.75 - 4.25	4.0	15.4	97.7
	4.45 - 4.75	4.5	2.1	99.8
Very	4.75 - 5.00	5.0	0.2	100.0

Table 3. Correlations among scales

	1	2	3	4	5	6	7	8	9	10
1. Culture	1.00									
2. Major	0.43	1.00								
3. Group	0.41	0.46	1.00							
4. Advising	0.33	0.55	0.44	1.00						
5. Reasoning	0.36	0.58	0.40	0.42	1.00					
6. Citizenship	0.47	0.53	0.39	0.39	0.35	1.00				
7. Writing	0.47	0.46	0.48	0.32	0.40	0.43	1.00			
8. Beyond Classrm	0.34	0.39	0.36	0.50	0.35	0.24	0.24	1.00		
9. Information	0.37	0.47	0.41	0.42	0.52	0.31	0.33	0.34	1.00	
10. Global	0.68	0.78	0.71	0.73	0.73	0.65	0.63	0.61	0.67	1.00

Table 4. "If I had to make my college choice over again, I would choose to attend UW"

Response Category	Frequency	Percent
Strongly disagree (1)	52	1.7
Disagree (2)	241	7.9
Neutral (3)	431	14.1
Agree (4)	1188	38.8
Strongly agree (5)	1147	37.5
Total	3059	100.0

Return

Table 5. Correlations and regression beta weights of scales with "Choosing UW Again"

	Correlation	Beta Weight
Culture	0.31	-.06
Major	0.53	.20
Group	0.42	.15
Advising	0.40	.09
Reasoning	0.40	.05
Citizenship	0.49	.26
Writing	0.39	.08
Beyond Classroom	0.24	-.02
Information	0.34	.06
Global Satisfaction	0.58	- - -

Return

Table 6. Differences between five-year and ten-year alumni

	Mean (SD) Rating				
	Five-year	Ten-year	t-value	Sig.	eta^2
Culture	3.24 (.84)	3.09 (.83)	4.47	p<.001	0.7%
Major	3.57 (.74)	3.50 (.74)	2.27	p<.05	0.2%
Group	3.28 (.75)	3.08 (.75)	6.65	p.<001	1.6%
Advising	2.67 (.84)	2.65 (.88)	0.70	ns	0.0%
Reasoning	3.56 (.64)	3.51 (.67)	1.86	ns	0.1%
Citizenship	3.62 (.87)	3.54 (.87)	2.46	p<.05	0.2%
Writing	3.77 (.75)	3.63 (.77)	5.02	p<.001	0.9%
Beyond	2.65 (.81)	2.55 (.85)	3.19	p<.001	0.4%
Information	3.37 (.67)	3.23 (.66)	5.50	p<.001	1.1%
Global	3.30 (.52)	3.20 (.53)	4.14	p<.001	0.9%

Table 7. Differences in bachelor's only vs. advanced degrees

	Mean (SD) Rating				
	Bachelor's	Advanced	t-value	Sig.	eta^2
Culture	3.16 (.84)	3.22 (.82)	-1.54	ns	0.1%
Major	3.46 (.74)	3.69 (.69)	-6.80	p<.001	2.1%
Group	3.21 (.76)	3.11 (.73)	3.07	p.<005	0.3%
Advising	2.64 (.86)	2.70 (.87)	-1.73	ns	0.1%
Reasoning	3.52 (.66)	3.57 (.65)	-1.71	ns	0.1%
Citizenship	3.57 (.87)	3.61 (.88)	-1.20	ns	0.0%
Writing	3.71 (.75)	3.66 (.79)	1.63	ns	0.1%
Beyond	2.58 (.84)	2.67 (.78)	-2.54	p<.05	0.2%
Information	3.29 (.67)	3.34 (.66)	-1.49	ns	0.1%
Global	3.24 (.53)	3.29 (.52)	-1.75	ns	0.2%

Table 8. Differences across ethnic groups

<u>Mean (SD) Rating</u>

	Caucasian	Asian	Other	F-value	Sig.	eta^2
Culture	3.20 (.83)	3.06 (.86)	3.18 (.90)	3.71	p<.05	0.3%
Major	3.56 (.74)	3.44 (.74)	3.48 (.71	3.69	p<.05	0.3%
Group	3.20 (.75)	3.16 (.75)	3.17 (.82)	0.71	ns	0.1%
Advising	2.67 (.87)	2.66 (.81)	2.60 (.88)	0.84	ns	0.1%
Reasoning	3.54 (.65)	3.57 (.67)	3.46 (.67)	2.53	ns	0.2%
Citizenship	3.63 (.87)	3.39 (.85)	3.50 (.93)	12.99	p<.001	0.9%
Writing	3.75 (.74)	3.53 (.79)	3.61 (.81)	16.01	p<.001	1.1%
Beyond	2.62 (.82)	2.54 (.83)	2.56 (.89)	1.89	ns	0.1%
Information	3.29 (.67)	3.32 (.68)	3.32 (.70)	.29	ns	0.0%
Global	3.28 (.52)	3.21 (.55)	3.22 (.57)	2.30	ns	0.3%

Table 9. Differences among major areas: Means (and standard deviations)

	Bus	Engr	NatSci	SocSci	Hum	Arts	F-value	Sig.	eta^2
Culture	2.99 (.84)	2.80 (.85)	3.10 (.84)	3.28 (.80)	3.17 (.80)	3.39 (.70)	14.48	p<.001	4.5%
Major	3.53 (.67)	3.51 (.66)	3.64 (.71)	3.42 (.73)	3.41 (.75)	3.34 (.83)	3.59	p<.005	1.4%
Group	3.48 (.66)	2.95 (.65)	2.86 (.75)	3.06 (.74)	3.24 (.77)	3.22 (.74)	27.60	p<.001	8.2%
Advising	2.63 (.81)	2.79 (.79)	2.62 (.91)	2.46 (.82)	2.47 (.84)	2.54 (.80)	6.30	p<.001	1.9%
Reasoning	3.49 (.56)	3.92 (.47)	3.83 (.57)	3.46 (.66)	3.16 (.66)	3.29 (.63)	51.08	p<.001	14.2%
Citizenship	3.48 (.79)	3.39 (.84)	3.55 (.86)	3.68 (.86)	3.64 (.85)	3.44 (.92)	5.60	p<.001	1.6%
Writing	3.60 (.66)	3.43 (.66)	3.39 (.80)	3.79 (.74)	3.96 (.74)	3.53 (.82)	17.81	p<.001	4.1%
Beyond Classroom	2.47 (.85)	2.60 (.89)	2.61 (.79)	2.57 (.81)	2.49 (.77)	2.47 (.77)	1.63	ns	0.5%
Information	3.31 (.66)	3.23 (.62)	3.38 (.66)	3.27 (.62)	3.08 (.66)	2.96 (.67)	14.57	p<.001	4.5 %
Global	3.24 (.45)	3.23 (.50)	3.26 (.54)	3.22 (.54)	3.25 (.53)	3.15 (.54)	1.07	ns	0.5%

Table 10. Differences between genders

	Mean (SD) Rating				
	Males	**Females**	**t-value**	**Sig.**	**eta^2**
Culture	3.07 (.83)	3.25 (.84)	-5.70	p<.001	1.2%
Major	3.51 (.70)	3.56 (.75)	-1.72	ns	0.1%
Group	3.09 (.73)	3.26 (.76)	-5.89	p.<001	1.2%
Advising	2.70 (.83)	2.62 (.88)	2.11	p<.05	0.2%
Reasoning	3.61 (.63)	3.48 (.67)	5.30	p<.001	1.0%
Citizenship	3.54 (.85)	3.61 (.89)	-2.21	p<.05	0.2%
Writing	3.62 (.74)	3.77 (.77)	-5.16	p<.001	0.9%
Beyond	2.62 (.85)	2.59 (.81)	0.93	ns	0.0%
Information	3.36 (.67)	3.27 (.67)	3.40	p<.001	0.4%
Global	3.25 (.51)	3.27 (.54)	0.58	ns	0.0%

Table 11. Number and percent of male and female respondents within each major group

	Male		Female		Total	
	No.	**%**	**No.**	**%**	**No.**	**%**
Business	187	47.6	206	52.4	393	100.0
Engineering	199	78.7	54	21.3	253	100.0
Social Sci	168	32.2	353	67.8	521	100.0
Natural Sci	123	51.5	116	48.5	239	100.0
Humanities	69	25.6	201	74.4	270	100.0
Arts	29	26.1	82	73.9	111	100.0
Total	775	43.4	1012	56.6	1787	100.0