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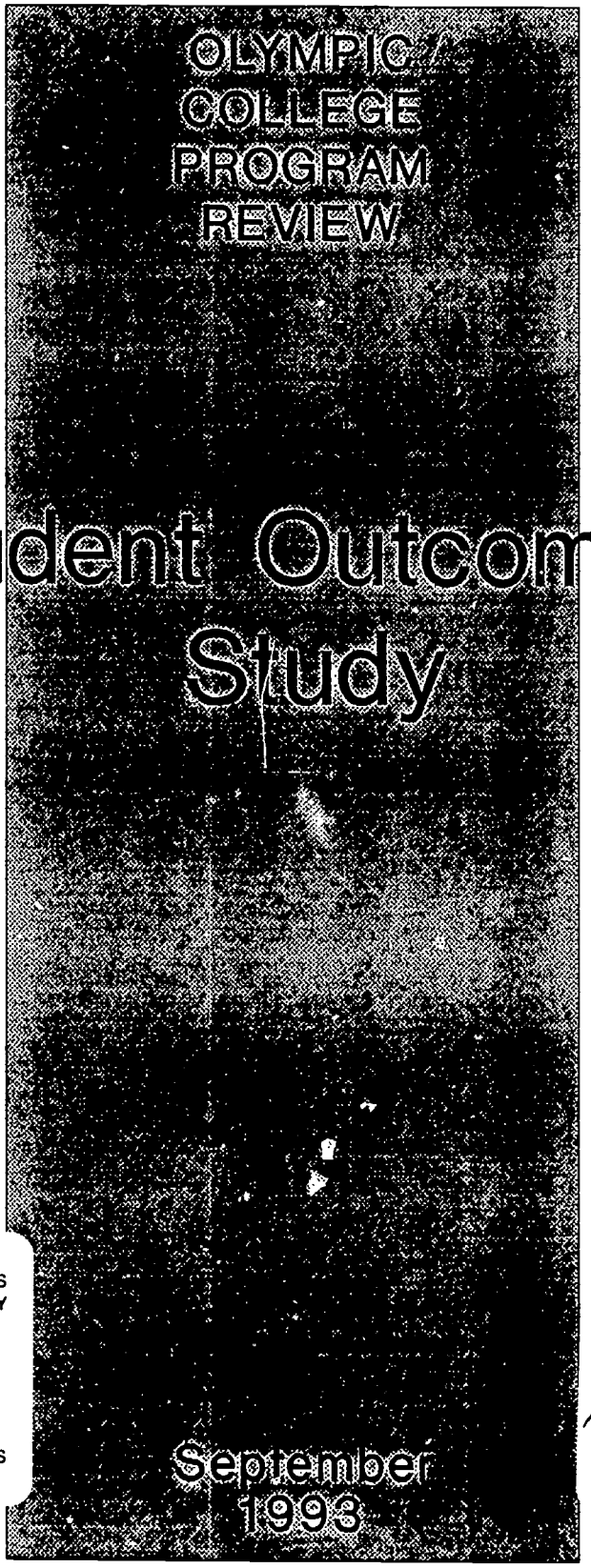
ABSTRACT

A follow-up study was conducted of students who had attended Olympic College (OC), in Washington, in fall 1990. A questionnaire was sent to a stratified random sample of 647 students, 3 years after their 1990 enrollment. A total of 390 responses were received for a 60.3% response rate. Respondents were divided into the following four groups, based on their enrollment intent at entry: General Academic; Transfer; Vocational Preparation; or Vocational Supplemental/Job Upgrade. The study sought to determine the accuracy of the students' reported intent; outcomes 3 years after attending; student satisfaction with OC courses or programs; and related demographics. Study findings included the following: (1) there was a lack of congruence between intent upon entry to OC and stated intent on the subsequent survey; (2) 26.1% of the General Academic students reported an annual salary of $30,000 or above, as compared with 35.2% of the Job Upgrade students, 18.1% of the Transfer group, and 10% of the Vocational Preparation students; (3) 43.2% of the male respondents reported annual earnings of $30,000 or more, as compared to 7.8% of the female respondents; (4) 70% of the respondents reported that their salaries had not increased as a result of having attended OC; (5) respondent satisfaction with academic courses ranged from 2.08 to 3.338 on a 4-point scale; and (6) respondent perceptions that their disciplines met their stated goals ranged from 2.14 to 3.51 on a 4-point scale. Twenty-nine data tables and the survey instrument are included. (PAA)



Student Outcomes Study

September 1993

EXECUTIVE SUMMARY

The Student Outcomes Study was developed and conducted between May of 1992 and September of 1993 for the purpose of providing current information and data on academic courses and programs to Olympic College faculty and administrators involved in the Program Review process. The purposes of the study were: 1) to determine the accuracy of the student intent as reported; 2) to determine student outcomes three years after 1990 enrollment; 3) to determine the perceptions of satisfaction of students who were at Olympic College and took academic courses or programs starting in Fall 1990; 4) to determine if academic courses were perceived to contribute to students in meeting their outcome goals; 5) to determine if the stated goals of the academic disciplines were met and contributed to these same student outcomes; and 6) to examine related demographics.

The study involved a mail and telephone survey to a stratified random sample of four groups of students who were attending Olympic College during Fall Quarter, 1990. The four student groups, by student intent, were: General Academic (A); Transfer (B); Vocational Preparation (F); and Vocational Supplemental/Job Upgrade (J). The total sample consisted of 647 students, with 82 in category (A), 262 in (B), 131 in (F), and 172 in (J). The return rate for the survey was 390, or 60.3 percent of the total mailed.

The data were analyzed using descriptive and inferential statistics. The results of the study are as follows: There is a lack of congruence between how the students were coded into the Student Management Information System (SMIS) and their stated intent for attending; there is also a lack of congruence between their intent and the outcome. Among the demographics studied was an examination of the salary levels of the four student groups. The results indicated a difference, and there were also high numbers of women and minorities reported in the lower income range. The students were asked if their salary levels had increased as a result of the time they spent in college, and over 70 percent reported that they had not. Employment of the four groups by sector was also studied, and the data brings a visible picture of the narrow range of employment options in the service area. Age category by student groups was studied and the results indicate a good distribution across two groups, with a definite clustering in the younger age categories for the other two groups. In examining the student perceptions of satisfaction with the academic courses taken, the overall mean score ranged from 2.08 to 3.338 on a 4-point scale. Across the four groups of students, the mean scores for some of the disciplines indicated a significant difference. In some cases the difference is easily explained, but in others careful consideration will be needed as to the cause. Overall mean scores were also calculated of perceptions by students as to whether the various disciplines met their stated goals. The mean scores ranged from 2.14 to 3.51 on a 4-point scale. Across the four groups of students, the mean score differed in only two disciplines. The last section of the study was an attempt to examine the level of correlation between students' perceptions of satisfaction with courses they had taken related to personal goal achievement and how well the defined unit/discipline goals as stated by faculty were met in these same courses. Correlations ranged from a low of 0.341 to a high of 1.000.

The information provided by this study was presented and written in a manner that will accommodate the lay reader as well as those with research backgrounds. The data will enable the Program Review process at Olympic College to meet the Fall 1993 implementation schedule. The study also provides current information for instructional planning and student services.

This study was conducted and completed from May to September, 1993

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INTRODUCTION

For the first time since its beginning in 1946, Olympic College has committed its faculty, staff, and administration to the establishment of an academic and vocational program review process. The college has acknowledged that such a process is necessary in order to measure the quality and relevance of its courses and programs. Under the leadership of Dr. A. Bud Langan, Associate Dean of Instruction, the program review process has been developed as a collaborative effort between administrators, faculty and staff, and consists of three major elements. The first element is a cost benefit analysis model; the second element is a vocational self-study which is routinely required by the state for all vocational programs; and the third element is the design, implementation, and reporting of an academic program research survey which attempts to address the less measurable outcomes inherent in academic curricula in the Washington State Community and Technical Colleges system. This study, then, is the third element of the broader-based program review process and provides essential data and information from which to evaluate the currency and effectiveness of academic programs.

The study process has consisted of survey research of former students to determine their levels of satisfaction with academic courses or programs required to meet the outcomes students have achieved as a result of their studies at Olympic College. The study also attempted to determine the correlation between the satisfaction levels of students and the stated goals of the faculty in the various academic units.

The design, implementation, and reporting of an academic program research survey has been much more challenging than the vocational self-study due to the less measurable outcomes and available data inherent in academic curricula in the Washington State Community and Technical Colleges system.

In order to obtain information from former students which would have practical value and true applicability to Olympic College academic programs, the faculty were involved in the design and development of the survey instrument and research design. The research targeted six major areas for study:

1. To determine the accuracy of the student intent as reported.
2. To determine student outcomes three years after attending.
3. To determine the perceptions of satisfaction of students who enrolled at Olympic College in academic courses or programs in the Fall of 1990.
4. To examine related demographics.
5. To determine if academic courses were perceived to contribute to students in meeting their outcome goals.
6. To determine if the stated goals of the academic disciplines were met and contributed to these same student outcomes.

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METHODOLOGY

The outcomes study which was designed as a component of the Olympic College Program Review process was developed between 1991 and 1993 and implemented in the Fall of 1993. Four groups of students who were enrolled during Fall Quarter of 1990 were studied according to educational intent. The groups were the General Academic student (A); the Transfer student (B); the Vocational Preparatory student (F); and the Vocational Supplemental or Job Upgrade student (J). The student population data for each group was extrapolated from the student management information system (SMIS), and a stratified random sample was selected. Table 1 indicates the student enrollment by group for Fall 1990 and the numbers of the 15 percent sample.

Table 1: Student Enrollment by Group and Sample by Number and Percent

INTENT		POPULATION N	POPULATION (%)	SAMPLE N	SAMPLE (%)
General Academic	(A)	546	(12.7)	82	(12.7)
Transfer	(B)	1,745	(40.5)	262	(40.5)
Vocational Preparation	(F)	876	(20.2)	131	(20.2)
Voc Supp/Job Upgrade	(J)	1,144	(26.6)	172	(26.6)
		4,311	(100.0)	647	(100.0)

Survey Design

A survey data-collection instrument consisting of 24 items was designed by administrators, faculty, and staff of the Program Review Council and other division/discipline representatives. The first section of the data-collection instrument identified the student intent for enrolling in the Fall of 1990; the outcome for that student as of August 1993; the location and time of courses taken; and degree or certificate obtained. The second section of the instrument used a Likert scale and asked the four student groups how courses taken in the various academic disciplines helped them to accomplish their goals. The third section of the survey also used the Likert scale to ask the four student groups how the various unit/disciplines met their unit goals as stated in the survey. The fourth section of the survey asked students to provide basic demographic information related to employment, employment sectors, salary ranges, salary increase related to training, hours worked, location of employment, gender, ethnicity, and age.

Pilot Test

The survey instrument was pilot tested on May 21, 1993 by instructor Jerry Pudelko with a group of 40 sociology students to determine clarification and ease of use. The students' suggestions for ease of reading and clarification were incorporated into the final survey.

Distribution and Collection

A cover letter explaining the study was drafted and mailed with a survey and franked return envelope on May 24, 1993 to 647 former Olympic College

students. After an interval of three weeks, a postcard reminder was mailed to all the individuals. Three weeks after the postcards were mailed, a telephone survey team began the process of contacting non-respondents. Return of survey or telephone response constituted consent to participate in this study.

Table 2 indicates the return rates of the first mailing, the postcard follow-up, and the telephone results. The total response rates for the four groups are as follows: General Academic, 67.0 percent; Transfer, 53.8 percent; Vocational Preparation, 67.9 percent; and Vocational Supplemental/Job Upgrade, 61.0 percent. Overall return was 390, or 60.3 percent of the 647 surveys.

Table 2: Survey Results by Mail, Follow-up Telephone

INTENT BY GROUP	FIRST MAILING N	(%)	FIRST RETURN N	(%)	POSTCARD RETURN N	(%)	TELEPHONE RESULTS N	(%)	TOTAL BY GROUPS N	(%)
General Academic (A)	82	(12.7)	6	(6.8)	3	(27.3)	46	(15.8)	55	(14.1)
Transfer (B)	262	(40.5)	41	(46.6)	2	(18.2)	98	(33.7)	141	(36.2)
Vocational Preparation (F)	131	(20.2)	19	(21.6)	2	(18.2)	68	(23.4)	89	(22.8)
Voc Supp/ Job Upgrade (J)	172	(26.6)	22	(25.0)	4	(36.4)	79	(27.1)	105	(26.9)
	647	(100.0)	88	(100.0)	11	(100.0)	291	(44.9)	390	(60.3)

TOTAL RESPONSE RATE N = 390 (60.3%)

Questions Researched

1. Are there significant differences between student groups (General Academic, Transfer, Vocational Preparation, Vocational Supplemental/Job Upgrade) relative to intent as expressed upon entry and outcome?
2. Are there significant differences among four groups of community college students (General Academic, Transfer, Vocational Preparation, Vocational Supplemental/Job Upgrade) relative to selected outcome variables?
   a. Are there significant differences between student groups relative to salary levels?
   b. Are there significant differences between groups in regard to increase in salary as a result of type of training?
   c. Are there significant differences in salary level of student groups according to gender?
   d. Are there significant differences between student groups in salary level according to ethnicity?
   e. Are there significant differences between student groups in employment categories?
   f. Are there significant differences in salary level according to degree/certificate earned?
   g. Are there significant differences between student groups according to age?

h. Are there significant differences in perceptions of satisfaction with academic courses taken between four student groups?

i. Are there significant differences in the meeting of stated goals of the various disciplines between/among the four student groups?

3. Are there high correlations between students' perceptions of the value of academic courses taken in personal goal achievement and students' perceptions of how well the defined unit/disciplines' goals as stated were met by faculty in courses taken?

ANALYSIS OF DATA

The purpose of this section is to describe the methods of analysis and to report the data which were collected from the survey instrument used in this study of the Olympic College Student Outcomes Study. The first section of the survey consisted of multiple choice questions about intent, outcome, location and time of courses, and degree or certificate earned; and questions with a Likert scale ranging from one to four which dealt with student perceptions of satisfaction relative to academic courses taken in completion of outcome goals. A second section of the survey also consisted of questions using a Likert scale which dealt with how respondents perceived the unit/discipline goal, as stated in the survey, had been met in the same academic courses taken. Questions in the last section of the survey dealt with the related demographic variables of employment, employment type, salary ranges, salary increases, hours worked, location of employment, gender, ethnicity, and age.

The statistical package utilized was the STATISTIX, Version 4.0 Analytical Software. The primary statistical technique employed was the Chi square test. The statistic was applied to categorical data to determine 1) the differences between the courses of respondents relative to their stated intent upon enrolling and their outcome at the administration of the survey; 2a) the differences between groups relative to salary levels; 2b) the differences between groups in regard to salary increases as a result of type of training; 2c) the differences between groups in salary levels according to gender; 2d) the differences between groups in salary levels according to ethnicity; 2e) the

differences between groups in employment categories; 2f) the differences in salary level according to the degree or certificate earned; and 2g) the differences between student groups according to age. The analysis of variance (ANOVA) was utilized to determine significant differences between the mean scores of the groups, and the Least Significant Difference post hoc comparison (LSD) was utilized to identify the basis of the difference for research questions: 2h) the perceptions of satisfaction with academic courses taken; and 2i) the significant differences in meeting the stated goals of the various unit/disciplines between four student groups in courses taken. The Spearman rank-order correlation was utilized to answer research question 3, which examined the level of correlation between the student perceptions of satisfaction with academic courses taken in goal attainment and the student perceptions of how well the faculty-defined unit/discipline goals were met in courses taken.

Research Question 1

Are there significant differences between student groups (General Academic, Transfer, Vocational Preparation, Vocational Supplemental/Job Upgrade) relative to intent as expressed upon entry, and outcome?

The Chi square test of independence was applied to the seven intent items and the eight outcome items to determine if a significant difference exists. It should be noted that the students were coded upon entry in 1990 into one of the four groups but expressed their intent differently at the time of the survey. See tables 3 and 4.

Table 3: Four Student Groups by Intent Expressed for Enrolling at Olympic College

	GROUP							
INTENT	ACADEMIC		TRANSFER		VOC PREP		VOC SUPP/ JOB UPGRADE	
	N	(%)	N	(%)	N	(%)	N	(%)
General Academic	18	(32.7)	19	(13.5)	12	(13.5)	31	(29.5)
Transfer	13	(23.6)	73	(51.8)	7	(7.9)	9	(8.6)
Voc ATA Degree/Cert	17	(30.9)	24	(17.0)	37	(41.6)	10	(9.5)
Job Training	3	(5.5)	4	(2.8)	11	(12.4)	23	(21.9)
Job Upgrade	1	(1.8)	7	(5.0)	4	(4.5)	22	(21.0)
Career Change	2	(3.6)	6	(4.3)	15	(16.9)	7	(6.7)
Other	1	(1.8)	8	(5.7)	3	(3.4)	3	(2.9)
	55	(100.0)	141	(100.0)	89	(100.0)	105	(100.0)

$X^2 = 161.75$
$P = 0.00$

Table 4: Four Student Group Outcomes as Expressed in Survey

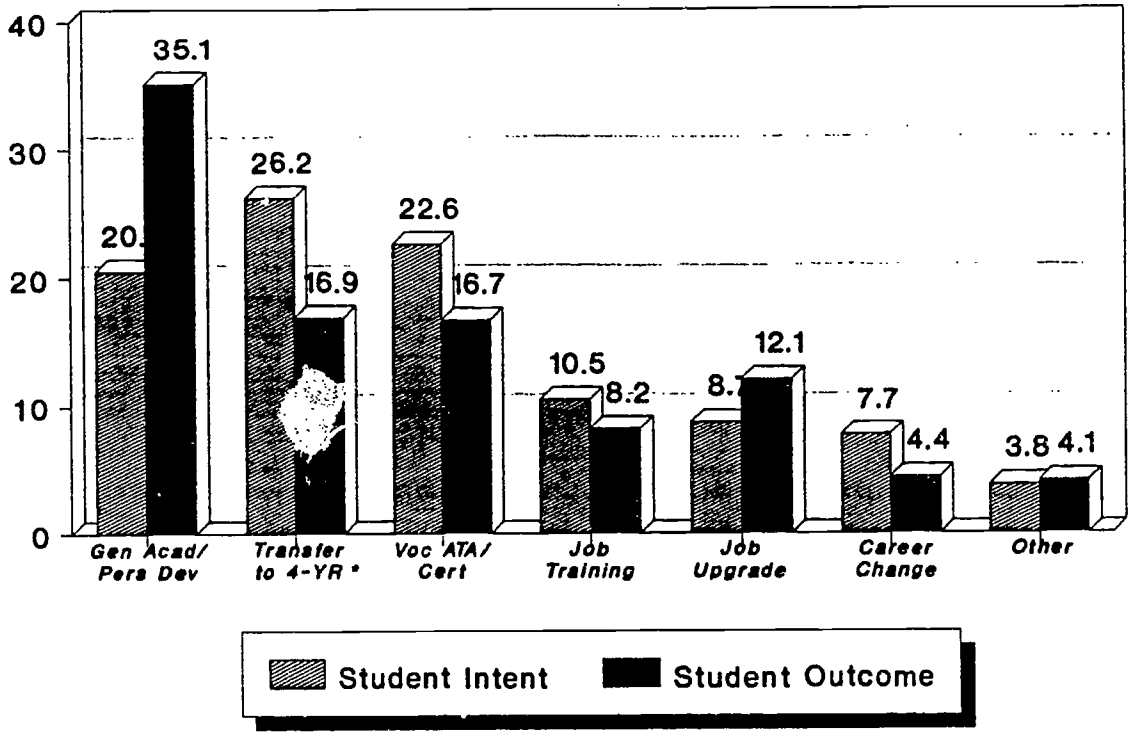
OUTCOME	GROUP							
	ACADEMIC		TRANSFER		VOC PREP		VOC SUPP/ JOB UPGRADE	
	N	(%)	N	(%)	N	(%)	N	(%)
General Academic	28	(50.9)	40	(28.7)	25	(28.1)	44	(41.9)
Transfer	8	(14.5)	52	(36.9)	2	(2.2)	4	(3.8)
Four-Year Degree	0	(0.0)	7	(5.0)	0	(0.0)	3	(2.9)
Voc ATA Degree/Cert	10	(18.2)	18	(12.8)	29	(32.6)	8	(7.6)
Job Training	4	(7.3)	3	(2.1)	9	(10.1)	16	(15.2)
Job Upgrade	2	(3.6)	12	(8.5)	10	(11.2)	23	(21.9)
Career Change	1	(1.8)	4	(2.8)	9	(10.1)	3	(2.9)
Other	2	(3.6)	5	(3.5)	5	(5.6)	4	(3.8)
	55	(100.0)	141	(100.0)	89	(100.0)	105	(100.0)

$X^2 = 126.53$
$P = 0.00$

The tables demonstrate the differences between student intent as coded, intent as expressed in the survey, and the outcomes of the students over a three and one-half year period of time. The lack of congruence may be attributed somewhat to the advising process, or to the coding of students into the registration process or into the Student Management Information System, or may be attributed to the students not having goals or changing their goals.

Figure 1 compares the intent and outcome of the four groups of students which were obtained at the time the survey was conducted approximately three and one-half years after their Fall 1990 enrollment data was entered into the system.

Figure 1:
Frequency Match: Student Intent/Outcome
(by percents)



* *Two percent have earned a four-year degree.*

N = 390 total student responses

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Research Question 2 **Are there significant differences among four groups of community college students (General Academic, Transfer, Vocational Preparation, Vocational Supplemental/Job Upgrade) relative to selected outcome variables?**

Research Question 2a **Are there significant differences between student groups relative to salary levels?**

The Chi square test of independence was applied to the salary categories listed on the survey to determine if a significant difference occurred between the four student groups. Cross-cell tabulations and percentages are reported in table 5 for the seven categories of response.

Table 5: Salary Levels of Four Student Groups by Group

SALARY	GROUP							
	ACADEMIC		TRANSFER		VOC PREP		VOC SUPP/ JOB UPGRADE	
	N	(%)	N	(%)	N	(%)	N	(%)
0 - 9,999	10	(23.8)	23	(25.0)	10	(14.9)	13	(14.3)
10 - 14,999	2	(4.7)	12	(13.0)	12	(17.9)	9	(9.9)
15 - 19,999	5	(11.9)	14	(15.2)	21	(31.3)	18	(19.8)
20 - 24,999	8	(19.0)	15	(16.3)	15	(22.4)	8	(8.8)
25 - 29,999	6	(14.3)	11	(12.0)	1	(1.5)	11	(12.1)
30 - 34,999	3	(7.1)	6	(6.5)	2	(3.0)	9	(9.9)
35 - Above	8	(19.0)	11	(12.0)	6	(9.0)	23	(25.3)
	42	(100.0)	92	(100.0)	67	(100.0)	91	(100.0)

TOTAL N = 292
X^2 = 36.86
P = 0.01

As can be seen in table 5, 26.1 percent of the students in the Academic group have salaries of $30,000 per year or above, while in the Vocational Supplemental/Job Upgrade group, 35.2 percent of the sample are at $30,000 or above. Students in the Transfer group indicate only 18.1 percent above $30,000, and the Vocational Preparation group indicate only 10 percent above $30,000. On the low end of the salary range, 23.8 percent of the Academic group; 25.0 percent of the Transfer group; 14.9 percent of the Vocational Preparation group; and 14.3 percent of the Vocational Supplemental group report earnings below $10,000 per year. Forty percent of the Academic group; 43.4 percent of the Transfer group; 55.1 percent of the Vocational Preparation group; and 40.7 percent of the Vocational Supplemental group report salary levels between $15,000 and $29,999 per year.

Research Question 2b **Are there significant differences between groups in regard to increase in salary as a result of type of training?**

The Chi square test of independence was applied to the categories of response listed in the survey to determine if a significant difference occurred between the four student groups relative to salary as a result of training. See table 6.

Table 6: Salary Increase as Result of Training by Group

	GROUP							
SALARY INCREASE	ACADEMIC N	(%)	TRANSFER N	(%)	VOC PREP N	(%)	VOC SUPP/ JOB UPGRADE N	(%)
Yes	12	(27.9)	21	(22.3)	26	(37.7)	30	(33.0)
No	31	(72.1)	73	(77.7)	43	(62.3)	61	(67.0)
	43	(100.0)	94	(100.0)	69	(100.0)	91	(100.0)

TOTAL N = 297
X^2 = 5.04
P = 0.17

Table 6 indicates that 72.1 percent of the Academic students; 77.7 percent of the Transfer students; 62.3 percent of the Vocational Preparation students; and 67.0 percent of the Vocational Supplemental/Job Upgrade students have not experienced a salary increase as a result of the training at Olympic College. No significant difference was found between groups relative to Question 2b.

Research Question 2c **Are there significant differences in salary levels between student groups according to gender?**

The Chi square test of independence was applied to the categories of response in the survey to determine if there is a significant difference between the salary categories according to gender as reported by the male and female students. See table 7.

Table 7: Salary Categories by Gender

SALARY	GENDER			
	MALE		FEMALE	
	N	(%)	N	(%)
0-9,999	14	(11.0)	42	(25.5)
10-14,999	13	(10.2)	22	(13.3)
15-19,999	12	(9.4)	46	(27.9)
20-24,999	20	(15.7)	26	(15.8)
25-29,999	13	(10.2)	16	(9.7)
30-34,999	13	(10.2)	7	(4.2)
35-Above	42	(33.1)	6	(3.6)
	127	(100.0) (43.5)	165	(100.0) (56.5)

N = 292
X^2 = 62.25
P = 0.00

Table 7 indicates a P-value of 0.00, indicating significant differences in salary levels between male and female students. Table 7 also indicates that 43.2 percent of the men are at $30,000 or above, while only 7.8 percent of the women are at the same level. Table 7 further indicates that 48.7 percent of the women responding are below $15,000, while only 21.2 percent of the men are at the same level. The data also indicates that 76.6 percent of the women are below $20,000, while only 30.6 percent of the men are at the same level.

Research Question 2d **Are there no significant differences between groups in salary level according to ethnicity?**

The Chi square test of independence was conducted to determine if a significant difference has occurred among respondents at each salary level according to ethnicity. See tables 8 and 9.

Table 8: Gender by Ethnicity

GENDER	ETHNICITY									
	ASIAN/PACIFIC ISLANDER		BLACK		HISPANIC		NATIVE AMERICAN		WHITE	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Male	16	(53.3)	3	(50.0)	5	(55.6)	1	(14.3)	126	(37.4)
Female	14	(46.7)	3	(50.0)	4	(44.4)	6	(85.7)	211	(62.6)
	30	(100.0)	6	(100.0)	9	(100.0)	7	(100.0)	337	(100.0)

Table 9: Salary Categories by Ethnicity

SALARY	ETHNICITY									
	ASIAN/PACIFIC ISLANDER		BLACK		HISPANIC		NATIVE AMERICAN		WHITE	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
0-9,999	2	(10.0)	0	(0.0)	2	(25.0)	1	(33.3)	51	(19.8)
10-14,999	4	(20.0)	2	(50.0)	1	(12.5)	0	(0.0)	28	(10.9)
15-19,999	3	(15.0)	0	(0.0)	2	(25.0)	1	(33.3)	52	(20.2)
20-24,999	6	(30.0)	0	(0.0)	2	(25.0)	0	(0.0)	38	(14.8)
25-29,999	2	(10.0)	1	(25.0)	1	(12.5)	0	(0.0)	25	(9.7)
30-34,999	1	(5.0)	0	(0.0)	0	(0.0)	1	(33.3)	18	(7.0)
35-Above	2	(10.0)	1	(25.0)	0	(0.0)	0	(0.0)	45	(17.5)
	20	(100.0) (6.8)	4	(100.0) (1.4)	8	(100.0) (2.7)	3	(100.0) (1.0)	257	(100.0) (88.0)

N = 292
X^2 = 22.32
P = 0.56

As can be seen, table 8 indicates 30 Asian/Pacific Islanders responded to the survey - 16 male and 14 female - but table 9 indicates that only 20 individuals, or 66 percent, report being employed. Of those employed, 75 percent are below the $25,000 level. Table 8 also indicates that three Black males and three Black females responded to the survey, but table 9 indicates that only four report earning a salary, with 50 percent below the $15,000 category and 50 percent above the $25,000 category. For the Hispanic males and females, table 8 indicates five and four, respectively, and table 9 indicates that eight report being employed, with 87.5 percent below the $25,000 category and only one, or 12.5 percent, in the $25-30,000 category. Table 8 reports one Native American male and six Native American females responding. Table 9, however, shows only three reporting earned income, with 66 percent below $20,000 and the remainder in the $30-35,000 category. Finally, table 8 indicates 126, or 37.4 percent, White males and 211, or 62.6 percent, White females. Table 9 shows 257, or 76.3 percent, of the White respondents reporting earnings by category, with 65.7 percent reporting earning at or below $25,000.

A review of table 7 leads one to conclude that the majority of individuals reporting in this category are female. Table 9 indicates 17.5 percent of the White category are in the $35,000-Above category; thus, one might also conclude that the majority of those individuals in that income bracket are male.

Research Question 2e **Are there significant differences between student groups in employment categories?**

The Chi square test of independence was applied to the fourteen employment sectors of response in the survey to determine if a more significant difference than would be expected had occurred in the number of respondents by group. See table 10.

Table 10: Employment Sector Categories by Group

EMPLOYMENT BY EMPLOYMENT SECTOR	GROUP									
	ACADEMIC		TRANSFER		VOC PREP		VOC SUPP		TOTAL SECTOR	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Manufacturing	2	(4.7)	1	(1.1)	1	(1.5)	3	(3.3)	7	(2.4)
Transportation	0	(0.0)	0	(0.0)	4	(6.0)	2	(2.2)	6	(2.1)
Public Utilities	0	(0.0)	2	(2.2)	0	(0.0)	1	(1.1)	3	(1.0)
Wholesale Trade	1	(2.3)	0	(0.0)	2	(3.0)	0	(0.0)	3	(1.0)
Retail Trade	8	(18.6)	13	(14.4)	4	(6.0)	3	(3.3)	28	(9.6)
Finance	2	(4.7)	3	(3.3)	0	(0.0)	1	(1.1)	6	(2.1)
Insurance	0	(0.0)	1	(1.1)	1	(1.5)	0	(0.0)	2	(0.7)
Real Estate	2	(4.7)	2	(2.2)	1	(1.5)	5	(5.4)	10	(3.4)
Services	2	(4.7)	15	(16.7)	9	(13.4)	12	(13.0)	38	(13.0)
Government	19	(44.2)	31	(34.4)	19	(28.2)	42	(45.7)	111	(38.0)
Professions	4	(9.3)	11	(12.2)	17	(25.4)	18	(19.6)	50	(17.1)
Other *	3	(7.0)	11	(12.2)	9	(13.4)	5	(5.4)	28	(9.6)
	43	(100.0)	90	(100.0)	67	(100.0)	92	(100.0)	292	(100.0)

N = 292
X^2 = 54.71
P = 0.02

* Other - CAD Manager, engineering firm; piano teacher; housekeeper; auto detailing; dance instructor; marine electrician; construction; gymnasium, office administrator; retired; accounting office; writer.

Table 10 reveals that 4.7 percent of the General Academic students are in the Services employment sector, compared to 16.7 percent for Transfer students, 13.4 percent for Vocational Preparation students, and 13.0 percent for Vocational Supplemental/Job Upgrade students. Table 10 further indicates that only 3.3 percent and 6.0 percent of the Vocational Supplemental/Job Upgrade students and the Vocational Preparation students, respectively, are employed in the low salary Retail Trade employment sector, compared to 18.6

percent of the General Academic students and 14.4 percent of the Transfer students. Also, 9.3 percent and 12.3 percent of the General Academic students and the Transfer students, respectively, are employed in the Professions sector, compared to 25.4 percent of the Vocational Preparation students and 19.6 percent of the Vocational Supplemental/Job Upgrade students.

It is notable, but expected, that due to the federal installations in the area, the Government sector reflects a high level of employment. There are relatively significant levels of Government employment in all categories, but there appears to be a higher level of Government employment in the Transfer and Vocational Supplemental/Job Upgrade categories. The Manufacturing, Transportation, Public Utilities, Wholesale Trade, and Insurance sectors reflect light employment patterns. The Other category, as reported in the surveys, is footnoted in table 10.

General Academic students reflect 62.8 percent employment in the low-level Retail Trade and higher-level Government sectors. The majority of employment for each group was reported in the Services, Government, and Professions sectors and is reflected as follows: General Academic - 58.2 percent; Transfer - 63.4 percent; Vocational Preparation - 67.0 percent; and Vocational Supplemental/Job Upgrade - 78.3 percent.

Research Question 2f **Are there significant differences in salary level according to degree earned?**

Sixty-four subjects have earned a degree, and nine have earned a certificate. Table 11 reports the salary levels and type of degree of those individuals.

Table 11: Salary Levels by Degree/Certificate Earned

	DEGREE/CERTIFICATE											
	AA		AAS		AGS		AS		ATA		CERT	
SALARY	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
0-9,999	14	(73.7)	14	(70.0)	0	(0.0)	1	(33.3)	6	(30.0)	2	(22.2)
10-14,999	1	(5.3)	2	(10.0)	0	(0.0)	0	(0.0)	3	(15.0)	0	(0.0)
15-19,999	1	(5.3)	1	(5.0)	0	(0.0)	0	(0.0)	4	(20.0)	2	(22.2)
20-24,999	1	(5.3)	1	(5.0)	0	(0.0)	0	(0.0)	1	(5.0)	2	(22.2)
25-29,999	0	(0.0)	1	(5.0)	2	(100.0)	2	(66.6)	1	(5.0)	1	(11.1)
30-34,999	0	(0.0)	1	(5.0)	0	(0.0)	0	(0.0)	1	(5.0)	1	(11.1)
35-Above	2	(10.5)	0	(0.0)	0	(0.0)	0	(0.0)	4	(20.0)	1	(11.1)
	19	(100.0)	20	(100.0)	2	(100.0)	3	(100.0)	20	(100.0)	9	(100.0)

N = 73

AA = Associate in Arts
AAS = Associate in Arts and Sciences
AGS = Associate in General Studies
AS = Associate in Science
ATA = Associate in Technical Arts
CERT = Certificate

NOTE: In 1992, the AA and AS degrees were dropped, and the AAS, AGS, ATA, and Certificate are now operational.

18.7 percent of sample earned a degree or certificate, which is comparable to the annual completion rate at Olympic College.

Table 11 indicates that 73.7 percent of the AA degree students; 70.0 percent of the AAS degree students; 25.0 percent of the ATA degree students; and 22.0 percent of the Certificate students earn below $10,000 per year.

Ten and six-tenths percent of the AA degree respondents report earnings above $35,000, while 20.0 percent of the ATA and 11.1 percent of the Certificate students report the same. Respondents report that 89.6 percent of those who earned the AA and 90.0 percent of those who earned the AAS are earning below $25,000 per year, while 60.0 percent of the ATA and 66.0 percent of the Certificate earners are below $25,000.

Research Question 2g **Are there significant differences between student groups according to age?**

The Chi square test of independence was applied to the categories of response listed in the survey to determine if a significant difference occurred between groups relative to age distribution. The Chi square ($X^2 = 153.13$, $P = .01$) reveals that there are differences between groups, as reported in table 12.

Table 12: Age by Group

AGE	GROUP							
	ACADEMIC		TRANSFER		VOC PREP		VOC SUPP/ JOB UPGRADE	
	N	(%)	N	(%)	N	(%)	N	(%)
20-24	26	(48.1)	64	(45.4)	17	(19.3)	10	(9.5)
25-29	6	(11.1)	19	(13.5)	12	(13.6)	13	(12.4)
30-34	7	(13.0)	16	(11.3)	9	(10.2)	14	(13.3)
35-39	4	(7.4)	11	(7.8)	20	(22.7)	20	(19.0)
40-44	4	(7.4)	10	(7.1)	10	(11.4)	21	(20.0)
45-49	5	(9.3)	11	(7.8)	11	(12.5)	13	(12.4)
50-Over	2	(3.7)	10	(7.1)	9	(10.2)	14	(13.3)
	54	(100.0)	141	(100.0)	88	(100.0)	105	(100.0)

TOTAL N = 388
X^2 = 153.13
P = 0.01

Table 12 indicates a relatively equal distribution of students enrolled across age groups for Vocational Preparation (F) and Vocational Supplemental/Job Upgrade (J) students. The General Academic (A) and Transfer (B) groups have larger numbers in the 20-24 year age group; and then show the same distribution as groups F and J in the 25-34 year range. From ages 35 to 50 and above, groups A and B indicate a smaller percent in

distribution of students than groups F and J. The large numbers in age category 20-24 for groups A and B are consistent with the high school graduation cycle.

It should also be noted that at age 50, the numbers in the General Academic (A) category drop off, but the numbers remain relatively constant for categories B, F, and J.

Research Question 2h **Are there significant differences in perceptions of satisfaction with academic courses taken between four student groups?**

Before the question was tested, a descriptive statistic was run to determine the overall perception of satisfaction of students who took academic courses. The satisfaction level is expressed in the mean scores for all of the disciplines by unit. Table 13 provides the scores, which range from a high of 3.38 to a low of 2.08 on a 4-point scale.

For examination of the question, a one-way analysis of variance (ANOVA) was performed on the data to determine if there are statistically significant differences between the means of the four groups by discipline relative to perceptions of satisfaction with their academic courses. See table 14 for the Social Sciences; table 15 for the Humanities; table 16 for Math/Science; table 17 for Business/Engineering; and table 18 for Physical Education.

Table 13: Overall Student Perceptions of Satisfaction with Academic Courses Taken in Social Sciences, Humanities, Math/Science, Business/Engineering, and Physical Education

DISCIPLINE BY UNIT	Mean $\bar{x}$	Standard Deviation SD
SOCIAL SCIENCES		
Anthropology	2.76	1.16
Economics	2.83	0.88
Education	3.29	0.96
Geography	2.76	0.90
History	3.03	0.90
Political Science	3.00	0.95
Psychology	3.06	0.93
Sociology	2.98	1.00
HUMANITIES		
Art	3.00	1.20
Drama	2.08	1.12
English 90 & 99	2.95	1.06
English 101,102,104	3.27	0.79
Foreign Language	2.44	1.04
Humanities	3.08	0.86
Journalism	2.58	1.07
Literature	3.06	0.83
Music	2.52	1.13
Philosophy	2.70	0.99
Speech	3.33	0.78
MATH/SCIENCE		
Astronomy	2.49	1.00
Biology	3.38	0.81
Chemistry	3.35	0.83
Geology	2.95	1.04
Math	3.14	0.89
Meteorology	2.55	1.13
Physical Science/Geography	2.64	0.93
Physics	3.29	0.76
BUSINESS/ENGINEERING		
Business Transfer	3.35	1.03
Engineering Transfer	3.04	1.00
PHYSICAL EDUCATION		
Physical Education	3.01	1.00

Table 14: Perceptions of Satisfaction by Four Student Groups with Academic Courses Taken in Social Sciences

ACADEMIC UNIT/ DISCIPLINE	GROUPS Academic x̄	Academic SD	Transfer x̄	Transfer SD	Voc Prep x̄	Voc Prep SD	Voc Supp x̄	Voc Supp SD	F
SOCIAL SCIENCES									
Anthropology	2.00	1.41	3.24	0.90	1.67	1.16	1.67	1.16	4.18 *
Economics	3.08	1.00	2.77	0.88	2.71	0.95	2.75	0.50	0.42
Education	3.50	0.84	3.25	1.12	3.50	0.58	3.00	0.71	0.30
Geography	2.54	1.05	2.88	0.80	4.00	--	2.63	0.92	1.10
History	3.04	0.98	3.17	0.82	2.73	0.96	2.62	0.96	2.09
Political Science	2.89	1.05	3.19	0.88	2.00	0.82	3.00	--	2.01
Psychology	2.98	1.07	3.24	0.83	2.86	0.90	3.09	1.00	1.59
Sociology	2.96	0.98	3.00	1.06	2.91	1.00	3.08	0.86	0.08

* P <.05

The data reveals a significant difference between the groups in the mean scores for Anthropology at the .05 level. The Least Significant Difference post hoc comparison (LSD) was used to determine where the difference occurred between the General Academic (A), Transfer (B); and Vocational Preparation (F), Vocational Supplemental (J) categories.

The LSD indicates that there is no significant difference between groups B and A, and no significant difference between A, F, and J. There is, however, a significant difference between B and F, and B and J.

Anthropology	B	A	F	J
	3.23	2.00	1.67	1.67

There are no significant differences between the group means for the other courses in Social Sciences as reported in table 14.

Table 15: Perceptions of Satisfaction by Four Student Groups with Academic Courses Taken in Humanities

ACADEMIC UNIT/ DISCIPLINE	GROUPS Academic $\bar{x}$	Academic SD	Transfer $\bar{x}$	Transfer SD	Voc Prep $\bar{x}$	Voc Prep SD	Voc Supp $\bar{x}$	Voc Supp SD	F
HUMANITIES									
Art	2.60	1.51	3.22	1.04	2.43	1.51	2.86	1.22	1.42
Drama	1.25	0.50	2.57	1.13	1.00	--	3.00	--	2.29
English 90 & 99	2.18	1.80	3.50	0.65	3.10	1.07	2.75	1.06	4.02 *
English 101,102,104	3.02	0.90	3.34	0.76	3.36	0.73	3.22	0.79	1.94
Foreign Language	1.75	0.89	2.43	1.07	3.14	0.69	2.75	0.96	2.57 *
Humanities	3.20	1.01	3.09	0.84	2.71	0.83	3.25	0.62	1.15
Journalism	1.40	0.55	3.33	0.87	2.50	0.71	2.33	0.58	7.33 *
Literature	3.22	0.67	3.23	0.77	2.75	0.89	2.20	0.84	3.07 *
Music	2.64	1.36	2.46	1.06	2.75	1.04	1.00	--	0.76
Philosophy	2.59	1.00	2.74	1.06	2.78	0.97	2.63	0.74	0.12
Speech	3.05	1.09	3.36	0.90	3.40	0.68	3.43	0.94	0.60

* $P < .05$

For English 90 & 99, the LSD indicates that there is no significant difference between groups B-Transfer, F-Vocational Preparation, and J-Vocational Supplemental/Job Upgrade, and that there is no significant difference between J and A-General Academic. There is, however, a significant difference between B and A, and F and A.

English 90 & 99	B	F	J	A
	3.50	3.10	2.75	2.18

For Foreign Language, the LSD reveals that there is no significant difference between groups F, J, and B, and no significant difference between B and A. There is, however, a significant difference between F and A, and J and A.

Foreign Language	F	J	B	A
	3.14	2.75	2.43	1.75

For Journalism, the LSD indicates that there is no significant difference between groups B-Transfer, F-Vocational Preparation, and J-Vocational Supplemental/Job Upgrade, and no significant difference between F, J, and A-General Academic. There is, however, a significant difference between B and A.

Journalism	B	F	J	A
	3.33	2.50	2.33	1.40

For Literature, the LSD reveals that there is no significant difference between groups B, A, and F, and no significant difference between F and J. There is, however, a significant difference between B and J, and A and J.

Literature	B	A	F	J
	3.23	3.22	2.75	2.20

There are no significant differences between the group means for the other courses in Humanities as reported in table 15.

Table 16: Perceptions of Satisfaction by Four Student Groups with Academic Courses Taken in Math/Science

ACADEMIC UNIT/ DISCIPLINE	GROUPS Academic $\bar{x}$	SD	Transfer $\bar{x}$	SD	Voc Prep $\bar{x}$	SD	Voc Supp $\bar{x}$	SD	F
MATH/SCIENCE									
Astronomy	2.39	1.12	2.59	0.98	2.50	0.71	2.00	1.00	0.36
Biology	3.43	0.81	3.33	0.82	3.48	0.90	3.29	0.49	0.22
Chemistry	2.85	1.14	3.43	0.73	3.50	0.74	3.50	0.55	2.10
Geology	2.73	1.16	3.05	0.99	3.75	0.50	2.43	1.13	1.76
Math	3.18	0.86	3.13	0.97	3.28	0.81	2.92	0.84	1.33
Meteorology	2.25	0.96	2.40	1.34	4.00	--	3.00	--	0.65
Phys Sci/Geography	2.80	0.84	2.71	0.96	--	--	2.29	0.95	0.63
Physics	3.38	0.74	3.23	0.83	3.00	1.41	3.40	0.55	0.17

Table 16 shows that there are no significant differences between the mean satisfaction scores at the .05 level for the four groups in Astronomy, Biology, Chemistry, Geology, Math, Meteorology, Physical Science/Geography, and Physics. Table 16 also indicates a mean range from 2.00, some degree of satisfaction, to 3.75, a high degree of satisfaction. It should be noted that the mean scores are relatively consistent across the groups.

Table 17: Perceptions of Satisfaction by Four Student Groups with Academic Courses Taken in Business/Engineering

ACADEMIC UNIT/ DISCIPLINE	GROUPS Academic $\bar{x}$	SD	Transfer $\bar{x}$	SD	Voc Prep $\bar{x}$	SD	Voc Supp $\bar{x}$	SD	F
BUSINESS/ENGINEERING									
Business Transfer	3.40	1.12	3.27	1.04	3.50	0.91	3.33	0.99	0.16
Engineering Transfer	3.67	0.52	2.63	1.41	3.00	1.00	3.00	0.76	1.24

Table 17 indicates no significant differences between the mean satisfaction scores of the four groups in the Business Transfer and Engineering Transfer courses taken. The mean scores indicate a range of 2.63, some/moderate degree, to 3.67, a moderate/high degree of satisfaction. There also is a relative consistency of means across groups.

Table 18: Perceptions of Satisfaction by Four Student Groups with Academic Courses Taken in Physical Education

ACADEMIC UNIT/ DISCIPLINE	GROUPS Academic $\bar{x}$	SD	Transfer $\bar{x}$	SD	Voc Prep $\bar{x}$	SD	Voc Supp $\bar{x}$	SD	F
PHYSICAL EDUCATION									
Physical Education	3.00	1.02	3.00	1.02	3.15	1.00	2.86	0.89	0.38

Table 18 indicates that there are no significant differences between the mean satisfaction scores of the four groups of students taking Physical Education courses. The mean score is relatively consistent across groups, ranging from 2.86 to 3.15.

Question 2i **Are there significant differences in the meeting of stated goals of the various disciplines between/among the four student groups?**

Overall mean scores were calculated of perceptions by students as to whether the various disciplines met their stated goals. These data are found in Table 19. One-way analysis of variance (ANOVA) then was performed on the data to determine if there were significant differences between the four groups of student perceptions relative to goal accomplishment by the academic unit/disciplines. See table 20 for student perceptions relative to the Social Sciences; table 21 for Humanities; table 22 for Math/Science; table 23 for Business/Engineering; and table 24 for Physical Education.

Table 19: Overall Student Perceptions of Satisfaction That Various Disciplines Met Their Stated Goals

DISCIPLINE BY UNIT	Mean $\bar{x}$	Standard Deviation SD
SOCIAL SCIENCES		
Anthropology	2.63	1.21
Economics	2.85	0.86
Education	3.03	1.03
Geography	2.90	1.07
History	3.04	0.88
Political Science	3.00	1.00
Psychology	3.10	0.95
Sociology	2.96	0.95
HUMANITIES		
Art	3.19	1.05
Drama	2.14	1.10
English 90 & 99	2.89	1.11
English 101,102,104	3.22	0.86
Foreign Language	2.59	1.02
Humanities	3.08	0.93
Journalism	2.55	1.10
Literature	3.14	0.90
Music	2.87	1.13
Philosophy	3.04	0.94
Speech	3.32	0.89
MATH/SCIENCE		
Astronomy	2.39	1.02
Biology	3.35	0.87
Chemistry	3.42	0.80
Geology	2.85	1.10
Math	3.19	0.85
Meteorology	2.27	1.10
Physical Science/Geography	2.97	0.88
Physics	3.21	0.98
BUSINESS/ENGINEERING		
Business Transfer	3.51	0.77
Engineering Transfer	3.12	0.86
PHYSICAL EDUCATION		
Physical Education	3.32	2.52

Table 20: Student Perceptions of Social Sciences Academic Unit Goal Attainment

ACADEMIC UNIT/ DISCIPLINE	GROUPS Academic x̄	Academic SD	Transfer x̄	Transfer SD	Voc Prep x̄	Voc Prep SD	Voc Supp x̄	Voc Supp SD	F
SOCIAL SCIENCES									
Anthropology	1.50	0.71	3.06	1.16	2.25	0.96	1.33	0.58	3.26 *
Economics	3.00	1.00	2.82	0.93	2.71	0.49	3.00	0.00	0.22
Education	3.20	0.45	2.91	1.23	3.50	0.58	3.00	0.71	0.41
Geography	2.77	1.24	3.04	0.91	3.00	1.41	2.63	1.19	0.38
History	3.22	0.95	3.07	0.85	2.77	0.93	2.85	0.90	0.96
Political Science	2.56	1.13	3.23	0.91	2.33	1.16	3.00	–	1.57
Psychology	3.08	1.01	3.16	0.93	2.93	0.97	3.33	0.86	0.95
Sociology	2.88	1.01	3.00	0.98	2.90	0.91	3.00	0.85	0.12

* $P < .05$

A significant difference was found between groups for Anthropology. The LSD indicates that there are no significant differences between groups B-Transfer, F-Vocational Preparation, and A-General Academic, and no significant differences between F, A, and J-Vocational Supplemental/Job Upgrade. There is, however, a significant difference between B and J.

	B	F	A	J
Anthropology	3.06	2.25	1.50	1.33

There are no significant differences between the group means for the other courses in the Social Sciences as reported in Table 20.

Table 21: Student Perceptions of Humanities Academic Unit Goal Achievement

ACADEMIC UNIT/ DISCIPLINE	GROUPS Academic $\bar{x}$	Academic SD	Transfer $\bar{x}$	Transfer SD	Voc Prep $\bar{x}$	Voc Prep SD	Voc Supp $\bar{x}$	Voc Supp SD	F
HUMANITIES									
Art	2.70	1.49	3.28	1.00	3.50	0.55	3.14	0.90	1.00
Drama	1.25	0.50	2.57	1.13	3.00	--	2.00	1.41	1.67
English 90 & 99	2.55	1.04	3.00	1.20	3.05	1.08	2.82	1.17	0.54
English 101,102,104	3.02	0.90	3.32	0.86	3.19	0.87	3.19	0.82	1.24
Foreign Language	1.86	0.90	2.53	1.03	3.43	0.54	3.00	0.82	3.43 *
Humanities	3.24	0.89	3.08	0.93	2.64	1.12	3.25	0.75	1.19
Journalism	2.60	1.52	2.73	1.10	2.00	1.00	2.33	0.58	0.35
Literature	3.67	0.50	3.18	0.93	2.71	0.76	2.60	1.14	2.32
Music	2.64	1.29	2.95	1.15	3.00	1.00	3.00	--	0.21
Philosophy	3.11	1.08	3.05	0.96	3.00	0.94	2.88	0.64	0.12
Speech	3.05	1.09	3.36	0.90	3.40	0.68	3.43	0.94	0.88

* $P < .05$

Table 21 indicates a significant difference between groups relative to Foreign Language. The Least Significant Difference post hoc comparison (LSD) indicates that there is no significant difference between groups F-Vocational Preparation and J-Vocational Supplemental/Job Upgrade, and no significant difference between J, B-Transfer, and A-General Academic. There is, however, a significant difference between F and B, and F and A.

Foreign Language	F	J	B	A
	3.43	3.00	2.53	1.86

There are no significant differences between the group means for the other courses in Humanities as reported in Table 21.

Table 22: Student Perceptions of Math/Science Academic Unit Goal Attainment

ACADEMIC UNIT/ DISCIPLINE	GROUPS Academic x̄	Academic SD	Transfer x̄	Transfer SD	Voc Prep x̄	Voc Prep SD	Voc Supp x̄	Voc Supp SD	F
MATH/SCIENCE									
Astronomy	2.64	0.92	2.40	1.07	2.50	0.71	1.33	0.58	1.32
Biology	3.32	0.72	3.22	1.00	3.65	0.71	3.43	0.54	1.34
Chemistry	3.15	0.90	3.39	0.84	3.64	0.73	3.33	0.52	1.06
Geology	2.53	1.06	2.87	1.11	3.75	0.50	3.00	1.27	1.37
Math	3.20	0.82	3.15	0.91	3.41	0.74	2.98	0.86	2.31
Meteorology	2.25	0.96	2.00	1.10	4.00	--	--	--	1.57
Phys Sci/Geography	3.00	0.82	3.08	0.74	--	--	2.50	1.38	1.06
Physics	3.00	0.93	3.33	1.05	3.00	1.41	3.25	0.50	0.23

Table 22 indicates that there are no significant differences at the .05 level in the mean scores of the four groups of students taking courses in the Math/Science discipline. Table 22 indicates a range of mean scores from a low degree of 1.33 to a 4.00, high degree of satisfaction.

Table 23: Student Perceptions of Business/Engineering Academic Unit Goal Attainment

ACADEMIC UNIT/ DISCIPLINE	GROUPS Academic x̄	Academic SD	Transfer x̄	Transfer SD	Voc Prep x̄	Voc Prep SD	Voc Supp x̄	Voc Supp SD	F
BUSINESS/ENGINEERING									
Business Transfer	3.67	0.65	3.49	0.74	3.62	0.87	3.33	0.89	0.46
Engineering Transfer	3.50	0.55	2.88	1.25	3.00	1.00	3.11	0.60	0.59

Table 23 reveals no significant differences between the mean scores of four groups of students taking Business Transfer and Engineering Transfer courses. The mean scores range from 2.88 to 3.67 on a scale of 1 to 4, which indicates a moderate to high level of goal attainment as perceived by students taking courses.

Table 24: Student Perceptions of Physical Education Academic Unit Goal Attainment

ACADEMIC UNIT/ DISCIPLINE	GROUPS Academic x̄	Academic SD	Transfer x̄	Transfer SD	Voc Prep x̄	Voc Prep SD	Voc Supp x̄	Voc Supp SD	F
PHYSICAL EDUCATION									
Physical Education	4.25	5.92	3.21	0.95	2.97	1.10	3.09	0.87	1.60

Table 24 indicates that there are no significant differences in the mean scores between the four groups relative to their courses in Physical Education. The scores range from a moderate degree of 2.97 to a 3.25.

Research Question 3 **What are the correlations between students' perceptions of personal goal achievement as a result of academic courses and students' perceptions of how well the unit/disciplines' goals were met by faculty?**

The Spearman rank-order correlation was performed on the data to determine the correlation levels between student perceptions of satisfaction with courses related to personal goal achievement and student perceptions of how well the defined unit/discipline goals as stated were met by faculty in courses taken. In interpreting the Spearman rank-order correlation, the following measures define the level of correlation:

0.01 to 0.25	Very low correlation
0.26 to 0.50	Low correlation
0.51 to 0.70	Moderate correlation
0.71 to 0.86	High correlation
0.87 to 1.00	Very high correlation

Table 25: Correlations in Social Sciences Between Student Goal Achievement and Faculty Goal Achievement

SOCIAL SCIENCES	
Discipline	Correlation Coefficient
Anthropology	0.614
Economics	0.569
Education	0.650
Geography	0.747
History	0.716
Political Science	0.643
Psychology	0.779
Sociology	0.707

Table 25 indicates a range of correlations between a moderate of 0.614 for Anthropology to a high of 0.779 for Psychology. Geography, History, and Psychology indicate high correlations between the student perceptions of satisfaction with academic courses taken in their goal attainment and their perceptions of how they feel the defined unit/discipline goals as stated were met by faculty in the same courses they took. Moderate correlations are indicated for Anthropology, Economics, Education, and Political Science.

Table 26: Correlations in Humanities Between Student Goal Achievement and Faculty Goal Achievement

HUMANITIES

Discipline	Correlation Coefficient
Art	0.742
Drama	0.686
English 90 & 99	0.813
English 101,102,104	0.693
Foreign Language	0.854
Humanities	0.784
Journalism	0.341
Literature	0.630
Music	0.808
Philosophy	0.695
Speech	0.720

Table 26 indicates correlations ranging from a low of 0.341 in Journalism to a high of 0.854 in Foreign Language. Moderate correlations are reported in the following courses: Drama; English 101, 102, & 104; Literature; and Philosophy. High correlations are reported in Art; English 90 & 99; Foreign Language; Humanities; Music; and Speech. High correlations indicate a consistency between the student perceptions of satisfaction with academic courses taken related to their personal goal attainment and student perceptions of satisfaction with how they feel the defined unit/discipline goals as stated were met by faculty in the courses they took.

Table 27: Correlations in Math/Science Between Student Goal Achievement and Faculty Goal Achievement

MATH/SCIENCE	
Discipline	Correlation Coefficient
Astronomy	0.560
Biology	0.690
Chemistry	0.676
Geology	0.770
Math	0.679
Meteorology	1.000
Physical Science/ Geography	0.610
Physics	0.521

Table 27 indicates correlations ranging from 0.521 to 0.770. Meteorology indicates a very strong correlation of 1.000, while Astronomy, Biology, Chemistry, Math, and Physical Science/Geography all indicate moderate correlations. Geology also indicates a high correlation.

Table 28: Correlations in Business/Engineering Between Student Goal Achievement and Faculty Goal Achievement

BUSINESS/ENGINEERING

Discipline	Correlation Coefficient
Business Transfer	0.644
Engineering Transfer	0.851

Table 28 indicates a moderate correlation of 0.644 for Business Transfer courses, and a high correlation of 0.851 for Engineering Transfer courses.

Table 29: Correlations in Physical Education Between Student Goal Achievement and Faculty Goal Achievement

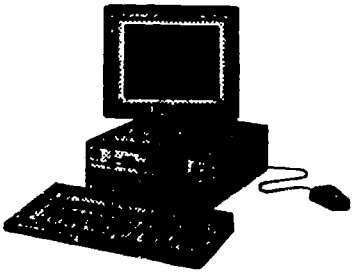
PHYSICAL EDUCATION

Discipline	Correlation Coefficient
Physical Education	0.607

Table 29 indicates a moderate correlation of 0.607 for Physical Education courses.

APPENDIX

Survey Document



Olympic College

Student Outcomes Study

A confidential assessment by students who were enrolled at Olympic College during Fall of 1990, and the outcome of their studies.

Please return your questionnaire in the enclosed envelope to:

Associate Dean of Instruction
Olympic College
1600 Chester Avenue
Bremerton, WA 98310-1699

Your participation in this study will assist in addressing the quality and relevance of Olympic College courses and programs.

First, we would like to ask about your enrollment at Olympic College and its outcome. (Please circle the number of your answer.)

Q-1 Which of the following were your two most important reasons for enrolling. (Please circle and label 1st and 2nd.)

1. General Academic/Personal Development
2. Transfer to 4-YR College/University
3. Vocational ATA Degree/Certificate
4. Job Training (short-term)
5. Job Upgrade
6. Career Change
7. Other _____
(Explain)

Q-2 What were the two most important outcomes of your studies at Olympic College? (Please circle and label 1st and 2nd.)

45-A

1. General Academic/Personal Development
2. Transferred to 4-YR College/University (still in school)
3. Completed 4-YR Degree
4. Completed ATA Degree/Certificate
5. Job Training (short-term)
6. Job Upgrade
7. Career Change
8. Other _____
(Explain)

Q-3 At what campus location did you take most of your courses? (Please circle one.)

1. Main Campus
2. Shelton Campus
3. Bainbridge Island Extension
4. Bangor Extension
5. Keyport Extension
6. North Kitsap Extension
7. South Kitsap Extension
8. Puget Sound Naval Shipyard

Q-4 At what time did you take most of your courses? (Please circle one.)

1. Day 2. Evening 3. Weekends

While a student at Olympic College, you took courses from a number of academic disciplines. In Questions 5-9, please rate each of the following courses in terms of how they helped you to accomplish your goals. A rating of 4 would be the highest, and 1 the lowest. If you did not take courses in a specific area, please circle the Does Not Apply (N/A) answer.

Q-5 SOCIAL SCIENCES	HIGH DEGREE	MODERATE DEGREE	SOME DEGREE	LOW DEGREE	DOES NOT APPLY
1. Anthropology	4	3	2	1	N/A
2. Economics	4	3	2	1	N/A
3. Education	4	3	2	1	N/A
4. Geography	4	3	2	1	N/A
5. History	4	3	2	1	N/A
6. Political Science	4	3	2	1	N/A
7. Psychology	4	3	2	1	N/A
8. Sociology	4	3	2	1	N/A

Q-6 HUMANITIES					
1. Art	4	3	2	1	N/A
2. Drama	4	3	2	1	N/A
3. English 90 & 99	4	3	2	1	N/A
4. English 101, 102, & 104	4	3	2	1	N/A
5. Foreign Language	4	3	2	1	N/A
6. Humanities	4	3	2	1	N/A
7. Journalism	4	3	2	1	N/A
8. Literature	4	3	2	1	N/A
9. Music	4	3	2	1	N/A
10. Philosophy	4	3	2	1	N/A
11. Speech	4	3	2	1	N/A

Q-7 MATH/SCIENCE					
1. Astronomy	4	3	2	1	N/A
2. Biology	4	3	2	1	N/A
3. Chemistry	4	3	2	1	N/A
4. Geology	4	3	2	1	N/A
5. Math	4	3	2	1	N/A
6. Meteorology	4	3	2	1	N/A
7. Physical Science/ Geography	4	3	2	1	N/A
8. Physics	4	3	2	1	N/A

Q-8 BUSINESS/ ENGINEERING	HIGH DEGREE	MODERATE DEGREE	SOME DEGREE	LOW DEGREE	DOES NOT APPLY
1. Business Transfer	4	3	2	1	N/A
2. Engineering Transfer	4	3	2	1	N/A

Q-9 PHYSICAL EDUCATION	HIGH DEGREE	MODERATE DEGREE	SOME DEGREE	LOW DEGREE	DOES NOT APPLY
1. Physical Education	4	3	2	1	N/A

Q-10 Did you receive an Associate Degree or Certificate from Olympic College? (Please circle one.)

YES -- 1. Associate in Arts (AA)
2. Associate in Arts and Sciences (AAS)
3. Associate in General Studies (AGS)
4. Associate in Science (AS)
5. Associate in Technical Arts (ATA)
6. Certificate

NO -- 7. Move on to Question 11.

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Questions 11-15 describe the goals of the various academic units/disciplines and ask for your perceptions of how well the faculty met these goals.

SOCIAL SCIENCES: The goal of the Social Sciences area is that students develop a capacity to know how to evaluate an idea based upon available evidence.

Q-11 To what degree did you develop the skills described above in the following Social Sciences disciplines:

SOCIAL SCIENCES	HIGH DEGREE	MODERATE DEGREE	SOME DEGREE	LOW DEGREE	DOES NOT APPLY
1. Anthropology	4	3	2	1	N/A
2. Economics	4	3	2	1	N/A
3. Education	4	3	2	1	N/A
4. Geography	4	3	2	1	N/A
5. History	4	3	2	1	N/A
6. Political Science	4	3	2	1	N/A
7. Psychology	4	3	2	1	N/A
8. Sociology	4	3	2	1	N/A

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HUMANITIES: The goal of the Humanities area is that students develop a sense of self and a means to make both critical and aesthetic judgments.

Q-12 To what degree did you develop the skills described above in the following Humanities disciplines:

HUMANITIES	HIGH DEGREE	MODERATE DEGREE	SOME DEGREE	LOW DEGREE	DOES NOT APPLY
1. Art	4	3	2	1	N/A
2. Drama	4	3	2	1	N/A
3. English 90 & 99	4	3	2	1	N/A
4. English 101, 102, and 104	4	3	2	1	N/A
5. Foreign Languages	4	3	2	1	N/A
6. Humanities	4	3	2	1	N/A
7. Journalism	4	3	2	1	N/A
8. Literature	4	3	2	1	N/A
9. Music	4	3	2	1	N/A
10. Philosophy	4	3	2	1	N/A
11. Speech	4	3	2	1	N/A

MATH/SCIENCE: The goal of the Math/Science area is that students develop basic skills as well as capabilities for creative problem-solving, critical and analytical reasoning, and effective communication about quantitative and scientific ideas.

Q-13 To what degree did you develop the skills described above in the following Math/Science disciplines:

MATH/SCIENCE	HIGH DEGREE	MODERATE DEGREE	SOME DEGREE	LOW DEGREE	DOES NOT APPLY
1. Astronomy	4	3	2	1	N/A
2. Biology	4	3	2	1	N/A
3. Chemistry	4	3	2	1	N/A
4. Geology	4	3	2	1	N/A
5. Math	4	3	2	1	N/A
6. Meteorology	4	3	2	1	N/A
7. Physical Science/ Geography	4	3	2	1	N/A
8. Physics	4	3	2	1	N/A

BUSINESS/ENGINEERING: The goal of the Business/Engineering area is that students develop basic knowledge, skills, and appreciation of modern professional systems and the ability to communicate within a technical framework.

Q-14 To what degree did you develop the skills described above in the following Business/Engineering disciplines:

BUSINESS/ ENGINEERING	HIGH DEGREE	MODERATE DEGREE	SOME DEGREE	LOW DEGREE	DOES NOT APPLY
1. Business Transfer	4	3	2	1	N/A
2. Engineering Transfer	4	3	2	1	N/A

PHYSICAL EDUCATION: Olympic College Physical Education promotes health and inhibits disease through the teaching of physically active lifestyles for the adult community.

Q-15 To what degree did you develop the skills described above in the following Physical Education discipline:

PHYSICAL EDUCATION	HIGH DEGREE	MODERATE DEGREE	SOME DEGREE	LOW DEGREE	DOES NOT APPLY
1. Physical Education	4	3	2	1	N/A

Q-16 Please circle the number of the answer that best describes your present employment. (Please circle one.)

1. Employed
2. Military
3. Full-time student - OC
4. Full-time student - OTHER _____ Name of School
5. Part-time student - OC
6. Part-time student - OTHER _____ Name of School
7. Unemployed, but seeking employment
8. Not employed/not seeking employment

Q-17 In what type of employment sector do you work? (Please circle one.)

1. Agricultural
2. Mining
3. Manufacturing
4. Transportation
5. Public utilities
6. Wholesale trade
7. Retail trade
8. Finance (bank)
9. Insurance
10. Real estate
11. Services (i.e., bartender, cosmetologist)
12. Government
13. Professions (i.e. lawyer, teacher, nurse)
14. Other

Briefly describe your employment (job title/duties)

_____

Q-18 What salary range best describes your present employment? (Please circle one.)

1. 0 - 9,999 per year
2. 10,000 - 14,999
3. 15,000 - 19,999
4. 20,000 - 24,999
5. 25,000 - 29,999
6. 30,000 - 34,999
7. 35,000 - Above

Q-19 Has your salary level increased as a result of your studies/training at Olympic College?

1. Yes 2. No

Q-20 How many hours per week do you work? (Please circle one.)

1. Less than 32 hours per week 2. 32 or more hours per week

Q-21 If you work in Washington State, what county do you work in:_____

If you work in another state, what state do you work in:_____

Q-22 Gender (Please circle one.) 1. M 2. F

Q-23 Ethnic Background (Please circle one.)

1. Asian/Pacific Islander
2. Black
3. Hispanic
4. Native American/Eskimo
5. White

Q-24 What is your age? ____