

In order to determine how satisfied alumni are with the undergraduate programs at St. Ambrose University, recent graduates were surveyed during the 2005-2006 academic year. The survey (available in Appendix C of the 2004 SAU Assessment Plan at <http://web.sau.edu/assessment/>) consists of four sections:

Section 1: Satisfaction with the General Education program at SAU

In this section, alumni were presented with a list of 20 abilities and skills that represent the intended outcomes of the General Education program at SAU. Using 5-point Likert scales, alumni were asked to rate each ability or skill on two dimensions:

- a) How important the graduate believes each ability or skill is to them today (1 = very unimportant; 5 = very important)
- b) How satisfied the graduate is with the preparation they received at SAU (1 = very unimportant; 5 = very important)

The skills and abilities, listed from highest to lowest perceived importance, consist of:

- | | | |
|---------------------------------------|---|---|
| 1) Communicate well orally | 8) Use computer adequately | 15) Appreciate artistic and other events |
| 2) Write effectively | 9) Work effectively in a group | 16) Recognize freedom of inquiry allows for dissent |
| 3) Take responsibility for my actions | 10) Make moral and ethical decisions | 17) Place issues in historical perspective |
| 4) Solve problems effectively | 11) Locate appropriate sources of information | 18) Express self through an artistic medium |
| 5) Think critically | 12) Think quantitatively | 19) Communicate in a foreign language |
| 6) Resolve conflicts effectively | 13) Make healthy life decisions | |
| 7) Respect individual differences | 14) Participate in the life of my community | |

Section 2: Satisfaction with academic department and major at SAU

In this section, alumni were asked to rate certain features within their major department or program (1 = very inadequate; 5 = very adequate). The features, listed from highest to lowest perceived adequacy, consist of:

- 1) Overall satisfaction with major
- 2) Faculty interest in academic development of students majoring in department
- 3) Faculty interest in personal development of students majoring in department
- 4) Communication between faculty members & students regarding student needs & concerns
- 5) Intellectual stimulation within the department
- 6) Departmental flexibility in meeting the needs of individual students
- 7) Information provided by department academic advisor
- 8) Opportunity for involvement with department clubs/organizations
- 9) Preparation for employment in a related field
- 10) Preparation for advanced degrees in a related field
- 11) Department help with admission into an advanced degree program
- 12) Variety of resources with which to research careers
- 13) Number of network opportunities between potential employers and students
- 14) Department help in finding employment for graduates

Section 3: Professional and career development

In this section, alumni were asked questions about their activities after graduation, including employment status or continuing education. Alumni were also asked to rate how valuable Career Center activities were in helping them find a job or continue their education.

Section 4: Overall satisfaction with SAU

The final section asked alumni about their general satisfaction with SAU (1 = very dissatisfied; 5 = very satisfied). Alumni were also asked the question: *If you could make your undergraduate college choice over again, would you still choose to enroll at SAU?*

Brief methods:

As in the two previous years, surveys were mailed to recent SAU graduates. This year, alumni were also given the option of completing the survey online. A total of 104 alumni responded to the survey. While this more than doubles the number of responses from fall 2004, it still represents a response rate of only approximately 18%. Because of this low response rate, the results of this survey will be interpreted with caution.

The responses to this survey will be analyzed to determine the perceived effectiveness of the General Education and undergraduate programs at SAU. Results will also be tracked longitudinally to see trends in alumni satisfaction with SAU.

Section 1: Satisfaction with the General Education program at SAU

2005 Results – Importance and Satisfaction

(2005 Sample Size = 104 alumni)	Importance		Satisfaction	
	Mean	Median	Mean	Median
Communicate well orally	4.79	5	4.16	4
Take responsibility for my actions	4.70	5	4.27	4
Write effectively	4.70	5	4.07	4
Solve problems effectively	4.69	5	4.09	4
Think critically	4.61	5	4.14	4
Resolve conflicts effectively	4.60	5	3.92	4
Respect individual differences	4.59	5	4.22	4
Use computer adequately	4.58	5	3.93	4
Work effectively in a group	4.57	5	4.22	4
Make moral and ethical decisions	4.54	5	4.29	4
Locate appropriate sources of information	4.38	4.5	4.13	4
Think quantitatively	4.30	4	3.94	4
Make healthy life decisions	4.28	5	3.75	4
Participate in the life of my community	4.23	4	3.97	4
Appreciate artistic and other events	4.01	4	3.90	4
Recognize freedom of inquiry allows for dissent	3.97	4	3.93	4
Place issues in historical perspective	3.79	4	3.66	3
Express self through an artistic medium	3.50	3	3.56	3
Communicate in a foreign language	3.11	3	3.17	3

104 SAU graduates examined a list of 20 skills and rated each of them on a scale from 1-5 in terms of:

- (1) How important each skill is to them today
(1 = very unimportant; 5 = very important)
- (2) Satisfaction with the preparation they received at SAU in each skill
(1 = very dissatisfied; 5 = satisfied)

The table to the left shows the average ratings for each skill. The averages are calculated only to rank the skills in terms of their relative importance and satisfaction levels. The skills in this table are ordered by their importance ratings. The alumni surveyed in 2005-06 believe *communicating well orally* is the most important skill and *communicating in a foreign language* is the least important skill.

53 of the 104 respondents (51%) rated all twenty skills a 3 or higher in importance, but only 14 respondents (13%) rated all skills a 4 or higher. 2 students gave importance ratings of 5 to every skill and one student gave all skills an importance rating of 1 or 2.

Alumni seemed most satisfied with the preparation they received in *making moral and ethical decisions* and *taking responsibility for their actions*. Again, 53 of the 104 respondents (51%) rated all twenty skills a 3 or higher in satisfaction. 8 respondents (8%) rated all skills a 4 or higher in satisfaction. 3 respondents gave satisfaction ratings of 5 for every skill and

Notice the general relationship that the skills receiving relatively low average satisfaction ratings were perceived to be the least important skills. The correlation between the average importance and satisfaction ratings for these 20 skills was calculated to be 0.704 (Spearman's Rho)

2005 Results – Importance and Satisfaction

(2005 Sample Size = 104 alumni)

	% Important	% Dissatisfied	% Satisfied
Solve problems effectively	99.0	5.0	86.1
Communicate well orally	98.1	8.7	84.6
Take responsibility for my actions	98.1	1.9	87.4
Write effectively	98.1	7.7	77.9
Use computer adequately	97.1	8.9	73.3
Think critically	97.0	5.0	86.0
Resolve conflicts effectively	96.2	4.0	71.7
Make moral and ethical decisions	96.1	2.9	88.5
Work effectively in a group	93.3	1.9	84.5
Respect individual differences	93.2	5.0	86.1
Locate appropriate sources of information	90.1	5.8	84.5
Think quantitatively	89.2	5.1	75.5
Make healthy life decisions	85.3	8.1	59.6
Participate in the life of my community	81.7	3.9	72.8
Appreciate artistic and other events	72.2	5.1	69.4
Recognize freedom of inquiry allows for dissent	70.0	0.0	65.3
Place issues in historical perspective	60.6	5.2	50.0
Express self through an artistic medium	51.0	7.2	46.4
Communicate in a foreign language	32.6	11.2	27.0

Since the skills were rated on a scale from 1-5, it is more meaningful to look at the percentage of alumni who rated each skill high or low. The table to the left displays this information:

% Important = % of alumni who rated each skill a 4 or 5 in importance
 % Dissatisfied = % of alumni who rated each skill a 1 or 2 in satisfaction
 % Satisfied = % of alumni who rated each skill a 4 or 5 in satisfaction

The skills are once again ordered by perceived importance. 99% of respondents think *solving problems effectively* is an important skill for them today, but fewer than one out of every three respondents believe *communicating in a foreign language* is an important skill (25.8% of respondents rate this skill a 1 or 2 in importance). Another skill that is relatively unimportant to alumni is *expressing self through an artistic medium*. 16.7% of respondents rate this skill a 1 or 2 in importance)

The next column in the table displays the percentage of alumni who were dissatisfied with the preparation they received at SAU. While most of the skills have a low dissatisfaction rate, five skills stand out as having a relatively high percentage of dissatisfied alumni:

- 11.2% -- Communicate in a foreign language
- 8.9% -- Use computer adequately
- 8.7% -- Communicate well orally
- 8.1% -- Make healthy life decisions
- 7.7% -- Write effectively

The final column in the table displays the percentage of alumni who were satisfied with the preparation they received at SAU. 8 skills have satisfaction ratings of at least 80%. Fewer than 2 out of every 3 respondents were satisfied with the preparation they received in:

- 27.0% -- Communicate in a foreign language
- 46.4% -- Express self through an artistic medium
- 50.0% -- Place issues in historical perspective
- 59.6% -- Make healthy life decisions
- 65.3% -- Recognize freedom of inquiry allows for dissent

Generally, fewer alumni were satisfied with the skills they perceived to be less important.

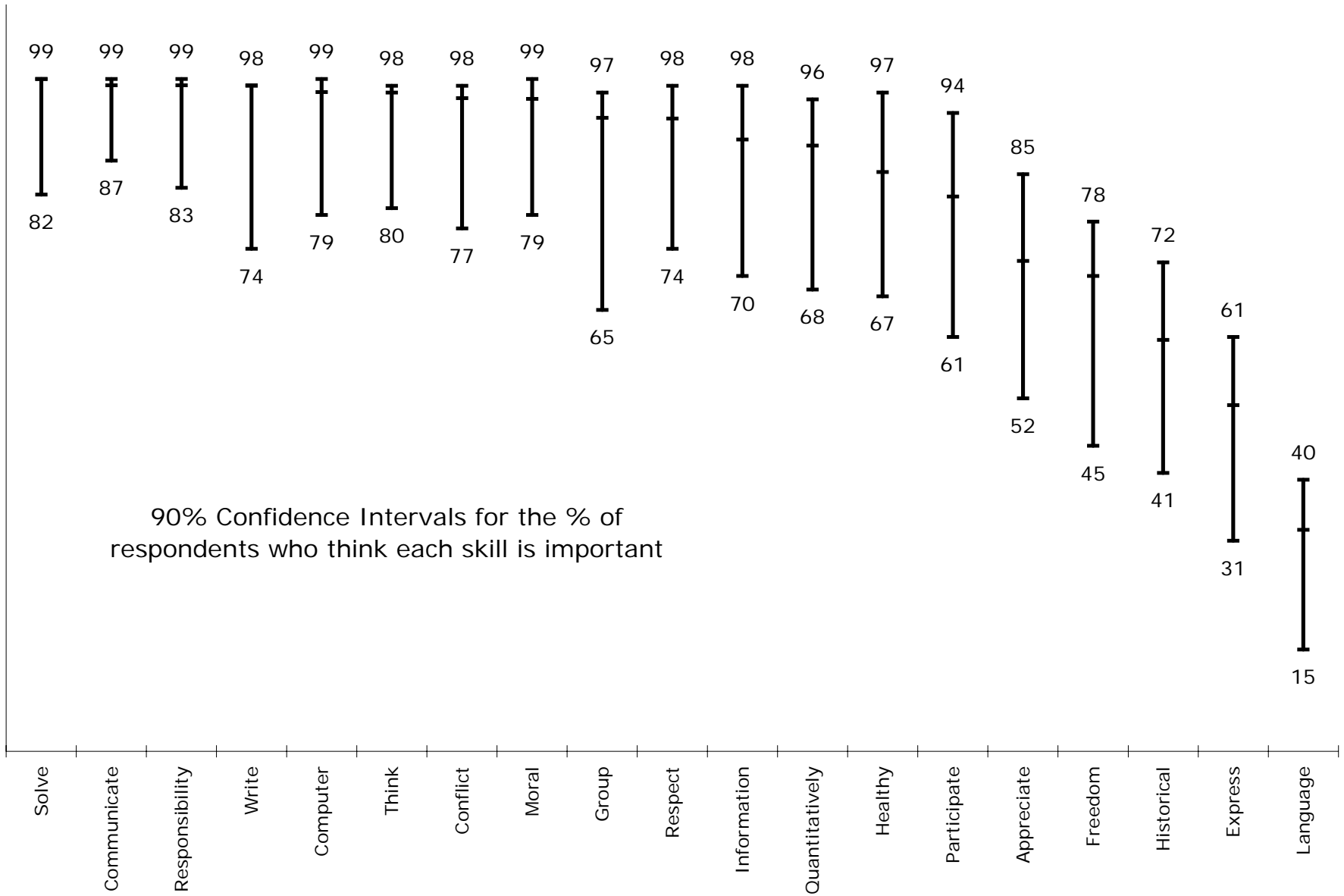
2005 Results –Importance and Satisfaction Confidence Intervals

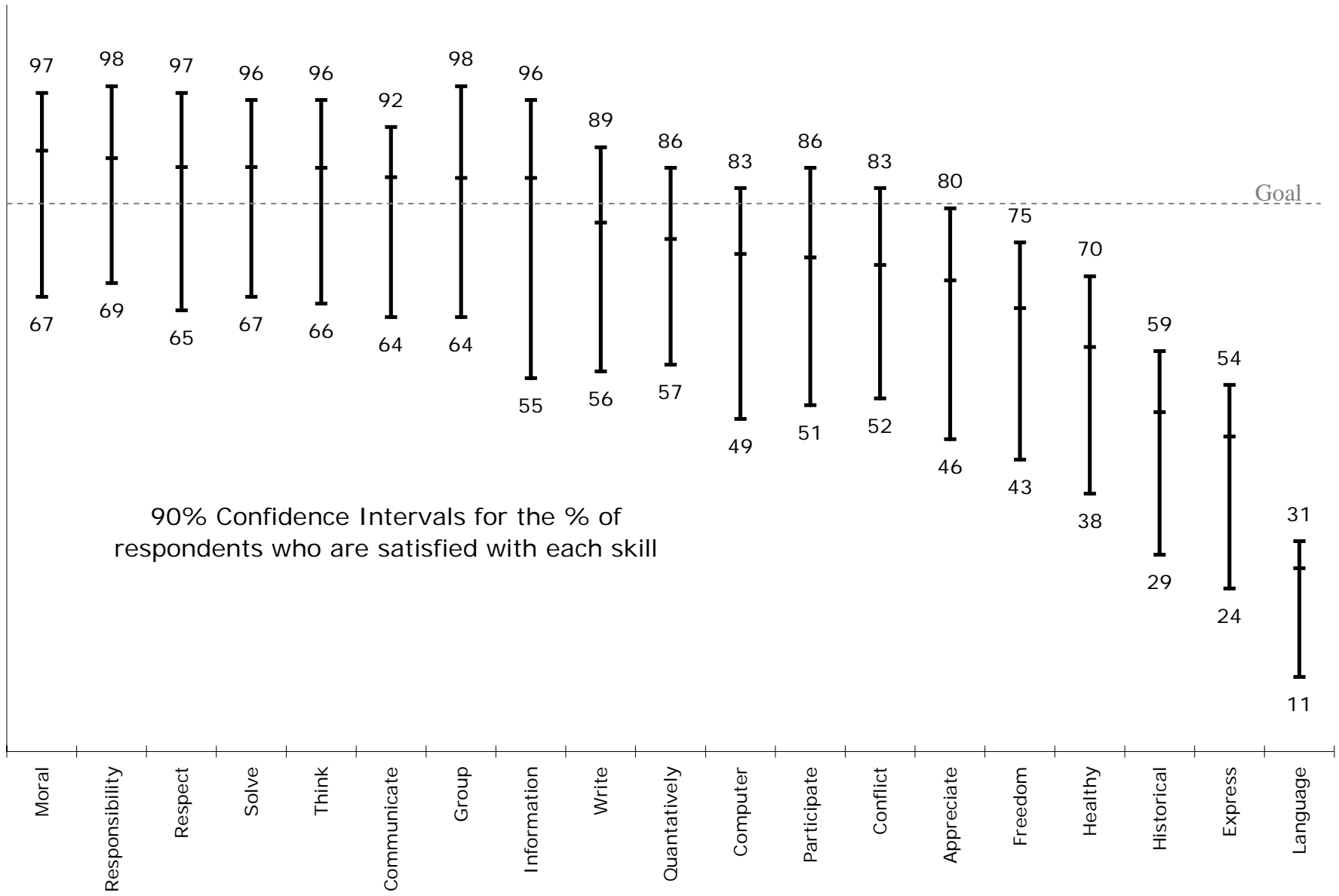
This sample of 104 alumni represents ___% of the alumni who have graduated from SAU in the past year. If we wish to generalize the survey results only to those alumni who graduated in the past year, we can calculate a finite population correction and calculated confidence intervals for the survey results.

The following table displays 90% confidence intervals for the percentage of alumni who rated each skill as unimportant, important, dissatisfied, or satisfied.

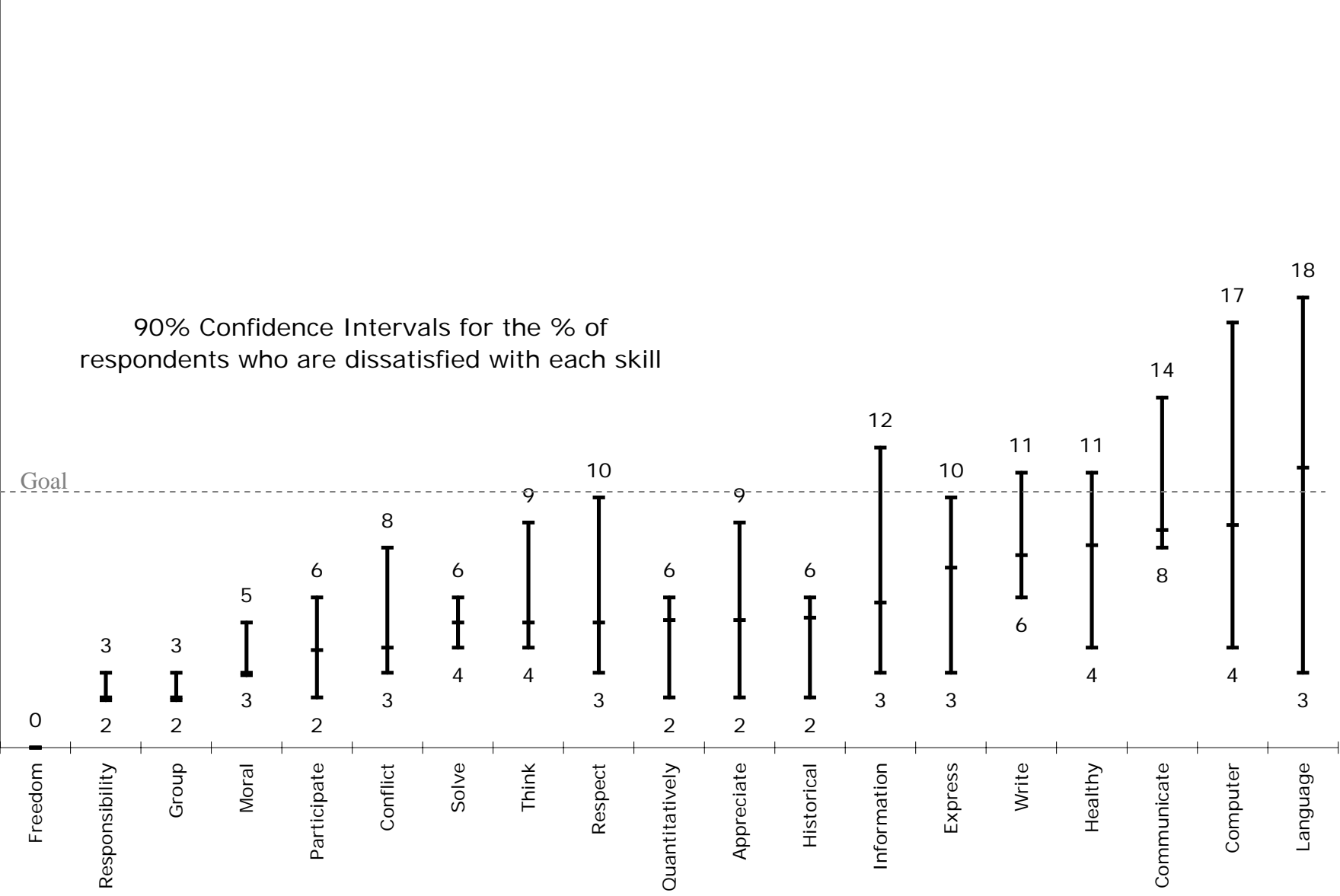
Finite Population Correction Factor Adjustment	90% Confidence Intervals (adjusted for population size)			
	% Unimportant	% Important	% Dissatisfied	% Satisfied
Solve problems effectively	01 – 02	82 – 99	04 – 06	67 – 96
Communicate well orally	01 – 02	87 – 99	08 – 14	64 – 92
Take responsibility for my actions	01 – 02	83 – 99	02 – 03	69 – 98
Write effectively	02 – 03	74 – 98	06 – 11	56 – 89
Use computer adequately	01 – 02	79 – 99	04 – 17	49 – 83
Think critically	02 – 03	80 – 98	04 – 09	66 – 96
Resolve conflicts effectively	02 – 03	77 – 98	03 – 08	52 – 83
Make moral and ethical decisions	01 – 02	79 – 99	03 – 05	67 – 97
Work effectively in a group	02 – 03	65 – 97	02 – 03	64 – 98
Respect individual differences	02 – 04	74 – 98	03 – 10	65 – 97
Locate appropriate sources of information	02 – 03	70 – 98	03 – 12	55 – 96
Think quantitatively	04 – 06	68 – 96	02 – 06	57 – 86
Make healthy life decisions	03 – 07	67 – 97	04 – 11	38 – 70
Participate in the life of my community	01 – 02	61 – 94	02 – 06	51 – 86
Appreciate artistic and other events	02 – 03	52 – 85	02 – 09	46 – 80
Recognize freedom of inquiry allows for dissent	03 – 05	45 – 78	0	43 – 75
Place issues in historical perspective	05 – 11	41 – 72	02 – 06	29 – 59
Express self through an artistic medium	12 – 23	31 – 61	03 – 10	24 – 54
Communicate in a foreign language	16 – 34	15 – 40	03 – 18	11 – 31
Listen Effectively				
		Goals:	< 10 %	> 80 %

If we would have received surveys from a different sample of the population, we are 90% confident that between 8-14% of the respondents would have been dissatisfied with the preparation they received in *communicate well orally*.





90% Confidence Intervals for the % of respondents who are dissatisfied with each skill



2005 Results – Comparing Importance and Satisfaction

The skills in this survey can be classified into four groups:

		Satisfaction	
		Above Average	Below Average
Importance	Above Average	(A) Highly <u>important</u> skills in which alumni are <u>satisfied</u>	(B) Highly <u>important</u> skills in which alumni are <u>not satisfied</u>
	Below Average	(C) Relatively <u>unimportant</u> skills in which alumni are <u>satisfied</u>	(D) Relatively <u>unimportant</u> skills in which alumni are <u>not satisfied</u>

The skills in cell A and cell C represent skills that alumni believe the General Education program is addressing adequately. The skills in cells B and D represent skills that alumni believe are not being adequately addressed by the General Education program. Because they represent highly important skills that are not being adequately addressed, we must identify the skills that would fall in cell B.

One simplistic way this can be done is by rank ordering the skills in both importance and satisfaction (based on the average ratings for each skill). The results of this method are displayed in the following table:

		Satisfaction	
		High (Rank 1-10)	Low (Rank 11-19)
Importance	High (Rank 1-10)	Take responsibility for my actions Respect individual differences Work effectively in a group Communicate well orally Think critically Solve problems effectively Write effectively	Use computer adequately Resolve conflicts effectively
	Low (Rank 11-19)	Make moral and ethical decisions Locate appropriate sources of information	Communicate in a foreign language Express self through an artistic medium Place issues in historical perspective Make healthy life decisions Appreciate artistic and other events Recognize freedom of inquiry allows for dissent Think quantitatively Participate in the life of my community

Using this method, two skills stand out as being important skills that are not adequately addressed: *Use computer adequately* and *Resolve conflicts effectively*.

We can also directly compare the importance and satisfaction ratings for each skill if we standardize both scales separately. The following table displays these results:

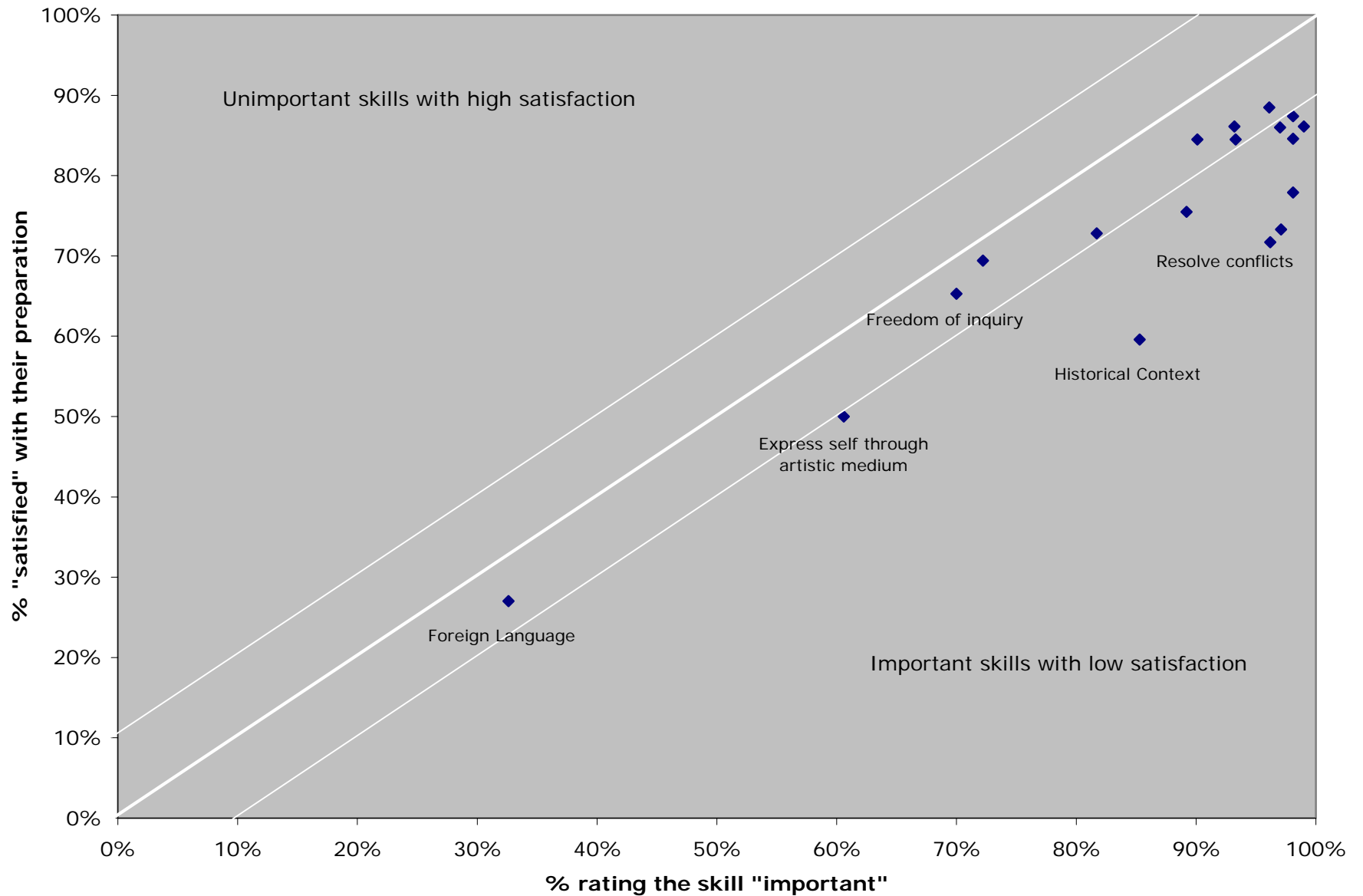
2005 Results – Standardized Importance and Satisfaction Scales

(2005 Sample Size = 104 alumni)	Satisfaction	Importance	Difference
Make moral and ethical decisions	1.17	0.50	0.67
Recognize freedom of inquiry allows for dissent	-0.12	-0.75	0.63
Locate appropriate sources of information	0.60	0.15	0.45
Appreciate artistic and other events	-0.23	-0.67	0.44
Work effectively in a group	0.92	0.57	0.35
Express self through an artistic medium	-1.45	-1.79	0.34
Respect individual differences	0.92	0.61	0.31
Take responsibility for my actions	1.10	0.85	0.24
Participate in the life of my community	0.02	-0.18	0.20
Place issues in historical perspective	-1.09	-1.15	0.06
Think critically	0.63	0.66	-0.02
Think quantitatively	-0.09	-0.03	-0.06
Communicate in a foreign language	-2.85	-2.65	-0.20
Communicate well orally	0.70	1.05	-0.35
Solve problems effectively	0.45	0.83	-0.38
Write effectively	0.38	0.85	-0.47
Make healthy life decisions	-0.77	-0.07	-0.70
Use computer adequately	-0.12	0.59	-0.71
Resolve conflicts effectively	-0.16	0.63	-0.79

The first column again represents the satisfaction ratings for each skill. The second column represents the importance ratings. The final column of this table is the most important. It represents the difference between a skill's standardized average satisfaction rating and its importance rating.

Positive values in that last column represent skills with satisfaction ratings higher than their importance ratings. Negative values represent skills in which satisfaction was lower than importance.

The "high importance, low satisfaction" skills can be identified through graphical methods, too. The scatterplot on the next page displays the relationship between importance and satisfaction for all skills in the survey.



This scatterplot again shows that alumni were generally dissatisfied with the skills they perceived to be relatively unimportant. Three skills that stand out as having low satisfaction ratings relative to their importance are: *Place issues in historical context*, *Resolve conflicts effectively*, and *Use computer adequately*.

If we believe that importance and satisfaction are equally important (i.e. SAU should not only prepare students in these skills but also teach students that these skills are important), then we can scale these skills to determine the effectiveness of SAU.

A “perfect skill” would be one in which 100% of alumni are satisfied and 100% of alumni believe is important. Looking at the scatterplot on the previous page, a perfect skill would be represented by a dot on the top-right corner. We can then measure the distance from that perfect skill to the dots of the other skills. Skills with small distances would represent skills in which SAU was successful in preparing students and teaching them that the skill is important. Skills with large distances would represent unimportant skills in which students are not satisfied.

To calculate this distance for each skill, we use: $D[(importance, satisfaction), (100\%, 100\%)] = \sqrt{(importance - 100)^2 + (satisfaction - 100)^2}$

The following table displays these distances:

Skill	Distance
Make moral and ethical decisions	12.1
Take responsibility for my actions	12.7
Solve problems effectively	13.9
Think critically	14.3
Respect individual differences	15.5
Communicate well orally	15.5
Work effectively in a group	16.9
Locate appropriate sources of information	18.4
Write effectively	22.2
Think quantitatively	26.8
Use computer adequately	26.9
Resolve conflicts effectively	28.6
Participate in the life of my community	32.8
Appreciate artistic and other events	41.3
Make healthy life decisions	43.0
Recognize freedom of inquiry allows for dissent	45.9
Place issues in historical perspective	63.7
Express self through an artistic medium	72.6
Communicate in a foreign language	99.4
Listen Effectively	
Average:	32.8

The table shows that the skill *make moral and ethical decisions* is closest to the perfect skill. *Communicating in a foreign language* and *express self through an artistic medium* are furthest from perfection.

Seeing the general direct relationship between importance and satisfaction, the following questions could be asked:

Were students able to differentiate between importance and satisfaction?

Did students simply rate some skills high and some skills low without thinking about importance and satisfaction?

To answer these questions, the correlations between importance and satisfaction ratings were calculated for each skill. If the ratings for each skill have a high correlation, it would indicate that alumni were unable to differentiate between importance and satisfaction. If the ratings have a low correlation, it would provide evidence that alumni were able to differentiate between importance and satisfaction. The following table displays the correlations between importance and satisfaction for all the surveyed skills:

(2005 Sample Size = 104 alumni)	Correlation
Solve problems effectively	.040
Communicate well orally	.012
Take responsibility for my actions	.135
Write effectively	.105
Use computer adequately	.115
Think critically	.130
Resolve conflicts effectively	.226 *
Make moral and ethical decisions	.195
Work effectively in a group	.169
Respect individual differences	.195
Locate appropriate sources of information	.184
Think quantitatively	.258 *
Make healthy life decisions	.266 *
Participate in the life of my community	.538 *
Appreciate artistic and other events	.446 *
Recognize freedom of inquiry allows for dissent	.634 *
Place issues in historical perspective	.436 *
Express self through an artistic medium	.683 *
Communicate in a foreign language	.077
Listen Effectively	

Even though the correlations are expected to be low due to the small variation in ratings, this table seems to indicate that students were able to differentiate between importance and satisfaction. The table seems to suggest the following:

- a) If a student rates a skill high in importance, the student may either be satisfied or dissatisfied with the preparation they received at SAU
- b) If a student rates a skill low in importance, the student is likely to be dissatisfied with the preparation they received at SAU.

Now that we are confident that students were able to differentiate between importance and satisfaction, a couple important questions remain:

Why do alumni give low importance ratings to specific skills?

Why are some alumni dissatisfied with specific skills?

A series of statistical analyses were conducted in an attempt to identify factors that may have influenced a graduate's decision to rate a skill high or low in importance or satisfaction.

- 1) Nonparametric tests (Mann-Whitney and Kruskal-Wallis) were conducted to compare ratings for males/females, employed/unemployed, and BA/BS graduates.

Males and females did not give significantly different importance or satisfaction ratings to any skill

Alumni who earned a B.S. degree did not give significantly different importance or satisfaction ratings to any skill than alumni who earned a B.A. degree

Alumni who are currently employed are more satisfied than students who are currently unemployed

Unemployed alumni: Average satisfaction rating = 3.63

Employed alumni: Average satisfaction rating = 3.94

The following table displays the skills that received significantly different ratings from employed and unemployed alumni:

Skills with significant mean differences	Mean rating for employed alumni	Mean rating for unemployed alumni
Satisfaction: Appreciate artistic and other events ($p = 0.014$)	3.99	3.38
Satisfaction: Express self through an artistic medium ($p = 0.015$)	3.66	3.06
Satisfaction: Make moral and ethical decisions ($p = 0.026$)	4.37	3.81
Satisfaction: Communicate well orally ($p = 0.34$)	4.19	3.75
Importance: Use computer adequately ($p = 0.033$)	4.64	4.38
Importance: Appreciate artistic and other events ($p = 0.050$)	4.05	3.50

Using logistic regression, the following result was computed:

The odds that an employed alumni is satisfied with *appreciate artistic and other events* is 11 times greater than the odds for an unemployed alumni

A discriminant analysis also found satisfaction with *appreciate artistic and other events* was the best variable to use in predicting alumni employment.

- 2) Cluster analyses were conducted to identify groups of students with similar responses. Once classified, the characteristics of these groups were examined.

Unfortunately, the cluster analysis was only able to identify 2 outliers:

one student who rated all skills low in importance and another student who was dissatisfied with most of the skills.

So, overall, it appears as though the importance and satisfaction ratings for some skills are influenced by the employment status of a graduate.