

Graduating Student General Education Survey Report

Executive Summary

Two hundred forty-nine (249) graduating students participated in the Graduating Student General Education Survey during the spring 2004 graduation rehearsal. Some of the more important highlights from the survey include:

- Ninety-eighty percent of the students rated their experience at NECC from average to excellent.
- Over eighty-one percent of the students indicated that if they were to start over, they definitely or probably would still attend NECC.
- Over eighty-seven percent indicated that they definitely or probably would recommend NECC to a friend or relative.
- We conclude there is a strong correlation between the level of perceived skill or ability reported by the students and the perceived impact NECC has had on their attainment of that skill or ability.
- We conclude there is a difference between the perceived instruction in the major (Question 7) and the perceived instruction in the general education courses (Questions 11). This perception is probably best explained by the perception that students tend to enjoy and take a greater interest in courses in their major or main area of study than they do in general education courses.

Impact of Instruction at NECC

The Assessment Committee had identified five major general education goals¹. Each goal is listed below with the questions that pertained to that goal. In addition, four questions of general nature were asked:

- Communication (Questions 1, 3, 6, 14);
- Mathematics (Questions 2, 4);
- Accessing Information (Questions 5, 10);
- Analyzing Information (Questions 8, 12);

¹ An Assessment Task Force was formed in October 2003. The Task Force has reviewed the five educational goals and made changes. These changes will be reflected in all future surveys.

- Global Diversity (Questions 9, 13); and
- General Questions (7, 11, 15, 16).

Each year students have rated Question 7; Instruction in the major was excellent, as the one with the highest mean. Over seventy-eight (78.6) percent responded they agreed or strongly agreed to this statement. The means for Question 11; the instruction in general education courses was excellent, seems to be substantially lower than the corresponding mean for Question 7, instruction in my major or program was excellent, for each of the three years the survey was administered. The question arises if these two means are the same or are they statistically different.

To determine if the means were statistically the same or different the following null hypothesis was tested. The null hypothesis states that there is no difference between the quality of instruction in the major (Question 7) and the quality of instruction in the general education courses (Question 11). The Paired Samples test was used and it concludes that there is a difference in the mean for the perceived quality of instruction in the major compared to the mean for the perceived quality of instruction in general education courses. We reject the null hypotheses that the means are the same.

The two tables on the next page present the results of the Paired Samples T Test for the years 2002, 2003, and 2004. The correlations are presented in the first table and the Paired T Test results are presented in the second table. The statistical significance at the .01 level indicates that there is a one chance in 100 that the difference between the mean for Question 7 and Question 11 would occur due to chance alone. These results then to support the idea that students enjoy courses within their major more than general education courses and does not indicate that actual instruction in the major is superior to instruction in the general education courses.

Paired Samples Correlations			
Year	N	Correlation	Sig.
2002	285	.433	.000
2003	240	.617	.000
2004	251	.396	.000

Paired Samples Test						
Year	Mean	Std. Dev.	Std. Error	t	df	Sig
2002	.18	.938	.056	3.221	284	.001
2003	.25	.854	.055	4.457	239	.000
2004	.37	.969	.061	6.122	250	.000

Students rated Question 10; I am able to obtain information in my field of study or interest, as the second highest mean for this survey section. Over seventy-eight (78.3) percent responded they agreed or strongly agreed to this statement.

Instructors teaching courses focusing on general education skills have been emphasizing the value of such courses in preparing students for future academic study and benefits. This is evident in the steady rise in the mean of Questions 15 and 16.

The means for all three years that the Graduation Student General Education Survey was administered are presented below. The frequency response tables for Questions 1 to 16 are included in Appendix B at the end of this report.

Questions	2002	2003	2004
1. The instruction I received at Northeast has helped me to improve my reading skills.	3.51	3.55	3.54
2. My math instruction has helped me to interpret story problems.	3.56	3.62	3.53
3. The instruction I have received at Northeast has helped me develop my writing skills.	3.71	3.56	3.66
4. I have strengthened my mathematical skills while taking instruction at Northeast.	3.65	3.74	3.73
5. Education has taught me that I should gather as much information as I can before making an important decision.	4.05	3.94	4.07
6. The instruction I have received at Northeast has helped me to improve my listening skills.	3.66	3.75	3.85
7. Instruction in my major or program area was excellent.	3.83	3.92	4.10
8. My education has led me to examine alternatives before making a decision.	3.87	3.87	3.92
9. My experiences at NECC have prepared me to work and interact effectively with people of other cultures.	3.73	3.70	3.86
10. I am able to obtain information in my field of study and interest.	4.04	4.01	4.09
11. The instruction in general education courses was excellent.	3.65	3.68	3.72
12. My instruction at NECC has enabled me to recognize that there may be multiple solutions to a problem.	3.85	3.83	3.91
13. My exposure to other cultures of the world has increased through classes and/or on-campus activities and events.	3.42	3.43	3.53
14. The instruction I received at Northeast has helped me to improve my speaking skills.	3.56	3.59	3.67
15. My NECC general education courses helped prepare me for future academic study.	3.66	3.70	3.82
16. I see future benefits from the knowledge I have gained from general education courses.	3.81	3.89	3.99

Comparison of Ability and the Impact of Attending NECC

Questions 17 to 29 are two part questions studying the impact of taking general education courses while attending NECC. Each question asks the student to indicate their perceived level of selected skills and abilities ranging from a scale of 1 (poor) to 5 (excellent). After selecting their perceived level of the selected skill or ability, the student is asked to indicate how much impact NECC had on their attainment of that particular skill or ability from a scale of 1 (very low) to a 5 (very high).

In order to test whether NECC had a part in developing the student's skill or ability, a null hypothesis was developed. The null hypothesis states that there is no correlation between the level of the perceived skill and the impact of NECC on the student's attainment of that ability or skill.

The null hypothesis for each question was tested using the Spearman Correlation test on an ordinal by ordinal measure. The results of each question from Question 17 to 29 are presented in the table below. In each case the null hypothesis was rejected indicating that the results were not by chance but rather were positively correlated. The higher the student indicated was their level of perceived skill or ability, the higher the perceived impact of NECC had on that skill or ability. The correlated values ranged from .457 for Question 23; Perform math skills in everyday life, to a high of .666 for Question 21; Use campus services to access information. The significance level for the results of all questions was .000 which means it is significant at the .001 level. For example, statistical significance at the .001 level means that there is only one chance in a thousand that these results occurred by chance alone.

Question	Value	Std. Error	Approx. T	Approx. Sig.
17. Speak in front of a group	.491	.064	8.007	.000
18. Work and interact with people different from me	.515	.068	8.405	.000
19. Solve math problems related to my career field	.488	.065	7.901	.000
20. Utilize the "scientific method" or another multi-step problem solving strategy	.612	.054	10.934	.000
21. Use campus services to access information	.666	.053	12.563	.000
22. Communicate ideas to other people	.498	.063	8.038	.000
23. Perform math problems used in everyday life	.457	.068	7.294	.000
24. Access a variety of information resources	.619	.057	11.022	.000
25. Write effectively	.518	.067	8.552	.000
26. Appreciate my rights, responsibilities, and liberties as a citizen	.499	.070	8.093	.000
27. Interact and work as a team member	.514	.065	8.468	.000
28. Develop a lifelong learning commitment	.511	.068	8.313	.000
29. Develop original ideas	.492	.067	7.863	.000

Characteristics of Graduating Students

The following tables provide some general characteristics regarding the students that completed the survey. A total of 249 of the 603 students who were graduating in May 2004 attended the graduation practice and completed the survey. The majority of the participants were male (63.9 percent) and between the ages of 19 to 24 (77.8 percent).

Question 32; which division were you associated with, is based on the 6 divisions that were in place through the 2003 academic year. Changes will be made to the survey in the future to reflect the new division alignment.

Questions 35 to 37 reflect how students rate their experience at NECC. The results of Question 35 indicated that over eighty-three (83.8) percent rated their experience as excellent or good. When asked in Question 36 if they would to start over, would they still attend NECC, 81.5 percent indicated they definitely or probably would attend NECC. When asked in Question 37 if they would recommend NECC to a friend or relative, 87.1 percent indicated they definitely or probably would recommend NECC. The complete results are presented in the tables below.

Question 30. What is your gender		
Gender	Number	Percent
Female	90	36.1%
Male	159	63.9%
Total	249	100.0%

Question 31. What is your age		
Age group	Number	Percent
18 and under	3	1.2%
19 to 24	193	77.8%
25 to 34	25	10.1%
35 to 44	15	5.7%
45 and over	12	4.6%
Total	248	100.0%

Question 32. Which division were you associated with		
Division	Number	Percent
Ag and Tech	73	28.0%
Business	53	20.3%
Health Science and Drafting	18	6.9%
Liberal Arts	49	18.8%
Trans and Const	52	19.9%
Total	245	100.0%

Question 35. How would you rate your experience at NECC		
Experience	Number	Percent
Excellent	76	30.6%
Good	132	53.2%
Average	35	14.1%
Below average	3	1.2%
Poor	2	0.8%
Total	248	100.0%

Question 36. If you could start all over, would you still attend NECC		
Attend NECC	Number	Percent
Definitely Yes	111	44.6%
Probably Yes	92	36.9%
Uncertain	29	11.6%
Probably No	8	3.2%
Definitely No	9	3.6%
Total	249	100.0%

Question 37. Would you recommend NECC to a friend or relative		
Recommend NECC	Number	Percent
Definitely Yes	117	47.2%
Probably Yes	99	39.9%
Uncertain	25	10.1%
Probably No	4	1.6%
Definitely No	3	1.1%
Total	248	100.0%

Background Information on Statistical Tests

Variables

There are three different measurement levels: scale, ordinal, and nominal. Scale values are numeric values and are on an interval or ratio scale (e.g. age, income). Scale values must be numeric. Nominal values represent categories with no intrinsic order (e.g. job category, division). Nominal variables can be either string (alphanumeric) or numeric values that represent distinct categories (e.g. 1 = Male, 2 = Female).

Ordinal values represent categories with some intrinsic order (e.g. poor (1) to excellent (5) and very low (1) to very high (5)). Ordinal variables can be alphanumeric or numeric. Note that the alphanumeric order of string values is assumed to reflect the true order of the categories. For example, for a string variable with the values of low, medium, high, the order of the categories is interpreted as high, low, medium—which is not the correct order. Generally, it is more reliable to use numeric codes to represent ordinal data.

The majority of the data collected in the survey is ordinal. The data values or ordinal string variables use numeric codes.

Spearman's Correlation²

Spearman's Correlation is a commonly used nonparametric measure of correlation between two ordinal variables. For all of the cases, the values of each of the variables are ranked from smallest to largest, and the Pearson correlation coefficient is computed on the ranks.

To calculate a correlation coefficient for ordinal data, Spearman's technique was selected. The value of a correlation coefficient can vary from minus one to plus one. A minus one indicates a perfect negative correlation, while a plus one indicates a perfect positive correlation. A correlation of zero means there is no relationship between the two variables. When there is a positive correlation between the two variables, as the value of one variable increases, the value of the other variable also increases. The variables move together. The significance (probability) of the correlation coefficient is determined by the t-statistic. The probability of the t-statistic indicates whether the observed correlation occurred by chance.

² Description from SPSS Help Manual

The higher the value (correlation) as presented in the second column of the data table on page 6, the stronger the correlation between the values. In this case the higher the value (correlation) the stronger the correlation of skill or ability level and the impact of instruction at NECC had on that skill.

Paired Samples T Test³

The Paired-Samples T Test procedure compares the means of two variables for a single group. It computes the differences between values of the two variables for each case and tests whether the average differs from 0.

For each paired test, specify two quantitative variables (interval- or ratio-level of measurement). For a matched-pairs or case-control study, the response for each test subject and its matched control subject must be in the same case in the data file. Observations for each pair should be made under the same conditions. The mean differences should be normally distributed. Variances of each variable can be equal or unequal.

³ Ibid

Below is a list of abilities and skills you have developed at Northeast. In the left column indicate the level of your self-reported proficiency, indicating a 1 (Poor) to a 5 (Excellent).

Secondly, as the right column, indicate how much impact NCCO had on your attainment of this ability or skill by ranking the NCCO impact with a 1 (Very Low) to a 5 (Very High).

Ability or Skill	1	2	3	4	5	1	2	3	4	5
	Very Low				Very High	Very Low				Very High
12. Develop and manage a budget										
13. Analyze and evaluate organizational performance										
14. Develop and manage a business plan										
15. Develop and manage a marketing plan										
16. Develop and manage a financial plan										
17. Develop and manage a human resources plan										
18. Develop and manage a technology plan										
19. Develop and manage a risk management plan										
20. Develop and manage a sustainability plan										
21. Develop and manage a social responsibility plan										
22. Develop and manage a corporate governance plan										
23. Develop and manage a compliance plan										
24. Develop and manage a cybersecurity plan										
25. Develop and manage a disaster recovery plan										
26. Develop and manage a business continuity plan										
27. Develop and manage a crisis management plan										

This survey is anonymous. It will be used to help design the information to help with our analysis. Again, great help to you, please!

28. What is your gender?

- Female
- Male

29. How well do you rate your experience of NCCO?

- Excellent
- Good
- Average
- Below Average
- Poor

30. Age

- 18 and under
- 19 to 24
- 25 to 34
- 35 to 44
- 45 and over

31. If you could have a choice, would you attend Northeast?

- Definitely yes
- Probably yes
- Uncertain
- Probably no
- Definitely no

32. What are your work responsibilities with?

- Agriculture and Technology
- Business
- Health Science and Training
- Law and Arts
- Transportation and Construction

33. Will you be attending Northeast a third or fourth year?

- Definitely yes
- Probably yes
- Uncertain
- Probably no
- Definitely no

Thank you and continue to us on your accomplishments.
Please let this survey end the time and please go to bed for the drawing.

Frequency Table

1. Helped improve reading skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	10	3.8	3.9	3.9
	Disagree	19	7.3	7.4	11.3
	Neutral	90	34.5	35.0	46.3
	Agree	97	37.2	37.7	84.0
	Strongly agree	41	15.7	16.0	100.0
	Total	257	98.5	100.0	
Missing	System	4	1.5		
Total		261	100.0		

2. Helped interpret story problems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	10	3.8	3.9	3.9
	Disagree	25	9.6	9.7	13.6
	Neutral	85	32.6	33.1	46.7
	Agree	93	35.6	36.2	82.9
	Strongly agree	44	16.9	17.1	100.0
	Total	257	98.5	100.0	
Missing	System	4	1.5		
Total		261	100.0		

3. Helped develop my writing skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	6	2.3	2.3	2.3
	Disagree	23	8.8	8.9	11.2
	Neutral	84	32.2	32.4	43.6
	Agree	85	32.6	32.8	76.4
	Strongly agree	61	23.4	23.6	100.0
	Total	259	99.2	100.0	
Missing	System	2	.8		
Total		261	100.0		

4. I have strengthened my math skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	1.9	2.0	2.0
	Disagree	18	6.9	7.1	9.1
	Neutral	78	29.9	30.7	39.8
	Agree	93	35.6	36.6	76.4
	Strongly agree	60	23.0	23.6	100.0
	Total	254	97.3	100.0	
Missing	System	7	2.7		
Total		261	100.0		

5. Should gather information before making decision

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.4	.4	.4
	Disagree	5	1.9	1.9	2.3
	Neutral	52	19.9	20.2	22.5
	Agree	117	44.8	45.3	67.8
	Strongly agree	83	31.8	32.2	100.0
	Total	258	98.9	100.0	
Missing	System	3	1.1		
Total		261	100.0		

6. Helped improve my listening skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	1.1	1.2	1.2
	Disagree	9	3.4	3.5	4.7
	Neutral	72	27.6	28.0	32.7
	Agree	112	42.9	43.6	76.3
	Strongly agree	61	23.4	23.7	100.0
	Total	257	98.5	100.0	
Missing	System	4	1.5		
Total		261	100.0		

7. Instruction in my major was excellent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	1.5	1.6	1.6
	Disagree	8	3.1	3.1	4.7
	Neutral	43	16.5	16.7	21.4
	Agree	106	40.6	41.2	62.6
	Strongly agree	96	36.8	37.4	100.0
	Total	257	98.5	100.0	
Missing	System	4	1.5		
Total		261	100.0		

8. Led me to examine alternatives before making decision

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	.8	.8	.8
	Disagree	7	2.7	2.7	3.5
	Neutral	67	25.7	26.2	29.7
	Agree	113	43.3	44.1	73.8
	Strongly agree	67	25.7	26.2	100.0
	Total	256	98.1	100.0	
Missing	System	5	1.9		
Total		261	100.0		

9. Work and interact effectively with people of other cultures

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	1.1	1.2	1.2
	Disagree	16	6.1	6.2	7.3
	Neutral	70	26.8	26.9	34.2
	Agree	96	36.8	36.9	71.2
	Strongly agree	75	28.7	28.8	100.0
	Total	260	99.6	100.0	
Missing	System	1	.4		
Total		261	100.0		

10. Able to obtain information in my field

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.4	.4	.4
	Disagree	5	1.9	1.9	2.3
	Neutral	50	19.2	19.5	21.8
	Agree	114	43.7	44.4	66.1
	Strongly agree	87	33.3	33.9	100.0
	Total	257	98.5	100.0	
Missing	System	4	1.5		
Total		261	100.0		

11. Instruction in Gen Ed was excellent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	1.5	1.6	1.6
	Disagree	16	6.1	6.3	7.9
	Neutral	69	26.4	27.2	35.0
	Agree	123	47.1	48.4	83.5
	Strongly agree	42	16.1	16.5	100.0
	Total	254	97.3	100.0	
Missing	System	7	2.7		
Total		261	100.0		

12. Recognize there are multiple solutions to a problem

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	.8	.8	.8
	Disagree	8	3.1	3.1	3.9
	Neutral	61	23.4	23.8	27.7
	Agree	126	48.3	49.2	77.0
	Strongly agree	59	22.6	23.0	100.0
	Total	256	98.1	100.0	
Missing	System	5	1.9		
Total		261	100.0		

13. Exposure to other cultures has increased through classes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	13	5.0	5.0	5.0
	Disagree	25	9.6	9.7	14.7
	Neutral	81	31.0	31.3	45.9
	Agree	93	35.6	35.9	81.9
	Strongly agree	47	18.0	18.1	100.0
	Total	259	99.2	100.0	
Missing	System	2	.8		
Total		261	100.0		

14. Helped improve my speaking skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	1.9	1.9	1.9
	Disagree	20	7.7	7.8	9.7
	Neutral	87	33.3	33.7	43.4
	Agree	90	34.5	34.9	78.3
	Strongly agree	56	21.5	21.7	100.0
	Total	258	98.9	100.0	
Missing	System	3	1.1		
Total		261	100.0		

15. Helped prepare me for future academic study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	1.9	2.0	2.0
	Disagree	12	4.6	4.8	6.7
	Neutral	68	26.1	27.0	33.7
	Agree	106	40.6	42.1	75.8
	Strongly agree	61	23.4	24.2	100.0
	Total	252	96.6	100.0	
Missing	System	9	3.4		
Total		261	100.0		

16. See future benefits from Gen Ed courses

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	1.1	1.2	1.2
	Disagree	5	1.9	2.0	3.2
	Neutral	62	23.8	24.5	27.7
	Agree	105	40.2	41.5	69.2
	Strongly agree	78	29.9	30.8	100.0
	Total	253	96.9	100.0	
Missing	System	8	3.1		
Total		261	100.0		