



Office of Institutional Research

To: College-Wide Assessment Team
From: Darby Hiller
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Subject: Retrospective Survey Results (Fall 2002)

Introduction.

In fall 2002, the College-Wide Assessment Team implemented the retrospective survey instrument to serve as an indirect measure of student proficiency in the general education outcomes. The survey asks students to rate their level of agreement with eleven different statements related to NMC's general education outcomes. The first four statements are from the communication outcomes rubric. The second four statements on the survey are from the critical thinking outcomes rubric. And the final three statements are from the cultural perspectives outcomes rubric (see attached survey). Faculty from over 300 classes administered the survey. More than 6000 surveys were scanned to create the data file.

Some of the surveys were deliberately removed from the ones to be scanned for the following reasons:

1. Students defaced the survey by drawing pictures or patterns
2. Students chose not to answer the survey and sometimes wrote comments on the bottom
3. Students that marked all "1's" in the first column and then all "5's" in the second column were assumed to have not taken the survey seriously (the same was true for students who marked all "5's" and then all "1's")
4. Surveys in which only one column was marked

Faculty were asked to read the instructions on the top of the survey so that students would have a better understanding of how to fill it out. Several students wrote that the survey did not apply to their class indicating that they are unaware of the general education outcomes or how their class purports to support them. It was obvious by how the surveys were filled out that some students did not read all the statements or take their answers seriously. It is important to take this last statement into consideration when interpreting the results. It is my hope that with over 6000 surveys, there are more students that answered honestly and truthfully than not. Recommendations for modifying the survey are mentioned below.

Results.

Descriptive statistics for the retrospective survey results taken in fall semester 2002 are provided below in tables. The first 22 variables (Table 1) are the actual statements from the retrospective survey. For instance, "co1_b" stands for "communications, question 1, before column." And, "cp2_n" stands for "cultural perspectives, question 2, now column," and so forth. The next 11 variables (Table 2) equate to the point difference between the "now" column numbers and the "before" column numbers. For example, com2 is equal to co2_n minus co2_b. The last 11

variables (Table 3) have the same formula as the point difference variables but they exclude the extreme values (-4 and 4).

The second column in the tables gives the number of students that answered that question. The third column is the mean answer for the question, and the last column is the standard deviation of the mean. Sixty six percent of the answers fall within one standard deviation of the mean. The range for the first 22 variables is 1-5. The response choices were:

- 1=strongly disagree
- 2=disagree
- 3=neutral or not applicable
- 4=agree
- 5=strongly agree

The range for the point difference variables is -4 to +4. And the range for the point difference variables minus the extreme values is -3 to +3. In interpreting the results, it is better to use the point difference values in which the extreme numbers have been excluded (Table 3).

Table 1	Retrospective Survey Questions	N	Mean	Std. Deviation
1	co1_b	5938	4.067	.952
2	co1_n	5888	4.201	.884
3	co2_b	5918	3.626	.960
4	co2_n	5892	4.246	.777
5	co3_b	5887	3.731	.939
6	co3_n	5849	4.121	.831
7	co4_b	5890	3.372	1.016
8	co4_n	5902	4.274	.796
9	ct1_b	5884	3.572	.969
10	ct1_n	5883	4.179	.805
11	ct2_b	5893	3.655	.939
12	ct2_n	5882	4.217	.778
13	ct3_b	5902	3.729	.931
14	ct3_n	5894	4.238	.776
15	ct4_b	5874	3.395	.978
16	ct4_n	5894	4.218	.800
17	cp1_b	5884	3.636	.949
18	cp1_n	5867	3.950	.942
19	cp2_b	5880	3.449	.947
20	cp2_n	5880	3.750	.948
21	cp3_b	5885	3.531	.939
22	cp3_n	5883	3.806	.962

Table 2	Total Point Difference	N	Mean	Std. Deviation
1	com1	5874	.138	.952

2	com2	5864	.626	.962
3	com3	5819	.395	.928
4	com4	5850	.906	1.029
5	crit1	5840	.611	.991
6	crit2	5839	.566	.960
7	crit3	5855	.515	.945
8	crit4	5835	.825	1.028
9	cult1	5832	.318	.932
10	cult2	5832	.303	.909
11	cult3	5833	.278	.928

Table 3	Point Difference Less the Extreme Values	N	Mean	Std. Deviation
1	comextr1	5785	.161	.816
2	comextr2	5819	.617	.907
3	comextr3	5775	.402	.861
4	comextr4	5773	.884	.954
5	criextr1	5784	.605	.921
6	criextr2	5790	.562	.895
7	criextr3	5805	.512	.876
8	criextr4	5766	.809	.955
9	culextr1	5778	.323	.851
10	culextr2	5775	.311	.820
11	culextr3	5767	.289	.826

From Table 1, the mean for the fourth critical thinking statement is 3.395 in the “before” column and 4.218 in the “now” column. This means that students are neutral with the statement before the course began and in agreement with the statement after taking the class. The difference between these means less the extreme values is 0.809, as annotated in the criextr4 row of Table 3. This number means that students in general increased their level of agreement with the statement by about 8 tenths. A positive mean in Table 3 indicates that students increased their level of agreement with the statement. Presumably this shows that their skill level in communications, critical thinking, or cultural perspectives improved because they took the class. Overall, students increased their level of agreement the most on the fourth communications statement (“I can use what I learned to communicate in this field”) and the fourth critical thinking statement (“I can solve problems using methods from this academic area.”)

Students’ level of agreement increased the least with the first communications statement (“I can understand, organize and express ideas using correct English.”) This may be because students ranked their level of agreement in the “before” column high to start with. Sure enough from Table 1, the mean for the first communications statement is 4.07 in the “before” column and 4.20 in the “now” column. In all of the other statements at least one of the columns had a mean between 3.3 and 3.9.

The following tables show (1) how many students (both frequency and percentage) reported a decreased level of agreement with the statement after the class, (2) how many students remained the same in their level of agreement, and (3) how many students reported an increased level of agreement with the statement after the

class. For instance, from Communications 3, 58.2% of the students reported that they remained the same in their level of agreement with the statement “I can communicate my purpose to a specific audience” after taking the class. However, 36.4% did increase their level of agreement with that statement. The other tables can be read in a similar manner.

Communications 1	Frequency	Valid Percent
Decreased Understanding	458	7.9
Remained the same	3999	69.1
Increased Understanding	1328	23.0
Total	5785	100.0

Communications 2	Frequency	Valid Percent
Decreased Understanding	227	3.9
Remained the same	2723	46.8
Increased Understanding	2869	49.3
Total	5819	100.0

Communications 3	Frequency	Valid Percent
Decreased Understanding	311	5.4
Remained the same	3363	58.2
Increased Understanding	2101	36.4
Total	5775	100.0

Communications 4	Frequency	Valid Percent
Decreased Understanding	165	2.9
Remained the same	1955	33.9
Increased Understanding	3653	63.3
Total	5773	100.0

Critical Thinking 1	Frequency	Valid Percent
Decreased Understanding	251	4.3
Remained the same	2740	47.4
Increased Understanding	2793	48.3
Total	5784	100.0

Critical Thinking 2	Frequency	Valid Percent
Decreased Understanding	257	4.4
Remained the same	2842	49.1
Increased Understanding	2691	46.5
Total	5790	100.0

Critical Thinking 3	Frequency	Valid Percent
Decreased Understanding	263	4.5
Remained the same	3002	51.7
Increased Understanding	2540	43.8
Total	5805	100.0

Critical Thinking 4	Frequency	Valid Percent
Decreased Understanding	178	3.1
Remained the same	2187	37.9
Increased Understanding	3401	59.0
Total	5766	100.0

Cultural Perspectives 1	Frequency	Valid Percent
Decreased Understanding	352	6.1
Remained the same	3653	63.2
Increased Understanding	1773	30.7
Total	5778	100.0

Cultural Perspectives 2	Frequency	Valid Percent
Decreased Understanding	329	5.7
Remained the same	3738	64.7
Increased Understanding	1708	29.6
Total	5775	100.0

Cultural Perspectives 3	Frequency	Valid Percent
Decreased Understanding	344	6.0
Remained the same	3791	65.7
Increased Understanding	1632	28.3
Total	5767	100.0

A near majority of the students reported that their skill level had remained the same for all of the outcome statements except for Communications 4 (“I can use what I learned to communicate in this field”) and Critical Thinking 4 (“I can solve problems using methods from this academic area”). In these latter statements, a majority of students reported a gain in their level of agreement as a result of taking the course.

Every instructor who administered the survey will receive a table of means. It includes the means for each column of each statement, as above in Table 1. It also includes the means shown in Table 2 and Table 3 above. To provide more analysis to each course would be time prohibitive.

Recommendations.

My recommendations include three areas of interest. First, I think that the survey should only be administered to a random sample of courses. This will preclude the same students from taking the survey multiple times. It will cut down on the amount of time it takes to scan and analyze the surveys. Instructors could then expect more detailed feedback. Moreover, the results can be tied to the specific outcomes supported by that course.

Secondly, I recommend that the response categories be reworded. It is awkward to talk about one's level of agreement with a statement. It would be more useful to talk about a student's level of understanding, or rating of skill. In future surveys it would be more appropriate to ask student's to "rate" their skill level before taking the class and after taking the class if two responses are still used for each statement. Otherwise, it would also be appropriate to ask a student to respond only once to a question and drop the "before this class" column. The survey could ask the students if their skills improved as a result of the class only. I think that the survey may then be taken more seriously with more valid results. For instance, the response categories could be:

0=not applicable

1=did not improve

2=somewhat improved

3=improved greatly

With this scale we remove the opportunity for students to say they actually became less skilled from taking the course.

Thirdly, I think we should label the different statements as part of a specific outcome. This may jog a student's memory if perhaps the instructor had mentioned the outcomes at some time during the semester. Moreover, it will be important for the instructors to disassociate the retrospective survey from the course or instructor evaluation. Finally, I recommend administering the retrospective survey again but only in a revised format.

Conclusions – What did we learn?

Unfortunately, the surveys themselves were not tied specifically to the courses that support a particular general education outcome. The only way to tie the results to an outcome is to take all of the course codes and look up the outcome that instructor purports to support, if any. On average, students reported that they gained in their level of agreement with every statement on the survey by 0.16 to 0.88 of a point (means in Table 3). More telling are the frequency tables. The cultural perspectives means are the lowest of the three in the "before" and "now" columns (Table 1). Furthermore, the cultural perspectives statements were also the ones in which the greatest percentage of students reported that their level of agreement did not increase. These results confirm the fact that developing and fostering the cultural perspectives outcome at NMC is and has been more challenging than the others.