

What We Have Learned

August 2005

General Education Assessment Update

In September 2004 (and then revised in November 2004), the first version of this update outlined what we had learned about students' performance on the general education outcomes through the first four years of assessment. This update presents what we have learned this past year (2004-2005). It includes results and key findings from artifact scoring from fall 2004 and spring 2005, results from the Student Perceptions survey in fall 2004, and results from the CAAP Critical Thinking test from spring 2005. It outlines some of the improvements made to the assessment methods, and briefly summarizes how assessment results are being used to make changes in the curriculum.

Communications

A trended weak area has been students' ability to use correct grammar, word usage, and mechanics. This trend continued into fall 2004 (see Table 1, C2). The lowest percentage of students performed at the sufficient level on C2 than on the other skills. In spring 2005, the artifact results show gains in this area for both the entire artifact sample and for near-graduates (defined as those students with 52 or more NMC credits). The weakest area in spring 2005 for students at any level was the ability to support the main idea with relevant material and documented sources (Table 1, C4).

Table 1. Percentage of students scoring Sufficient or better: Communications		Near-graduates (Spring 2005) (N=66)	Spring 2005 (N=224)	Fall 2004 (N=49)
C1	Identifies main idea for intended purpose	80.3	77.2	71.4
C2	Uses coherent and mechanically-sound language	75.8	76.7	61.2
C3	Organizes ideas logically for intended purpose	71.2	68.8	71.4
C4	Supports main idea with relevant material and documented sources, if suitable	65.2	57.6	69.2 (N=39)
C5	Demonstrates an awareness of audience	81.8	79.9	79.6

On the Student Perceptions Survey in fall 2004 (Table 2), students perceived the least improvement in using mechanically sound language, which substantiates the artifact findings. As in previous semesters, a larger percentage of students perceived that learning to use correct grammar and mechanics did not apply to their course (6.3%), but that number has dropped. (Note: the survey was not administered in spring 2005.)

Table 2. Student Perceptions Survey	Fall 04 (N=303)	
	Mean	%NA
1. My ability to present and support an idea I am trying to convey has:	2.43	0.7
2. My ability to organize information to support an idea has:	2.45	1.0
3. My ability to express ideas appropriately using correct grammar and mechanics has:	2.32	6.3
4. My ability to use sources appropriately in supporting my ideas has:	2.38	3.3
5. My ability to communicate with a sense of my audience has:	2.41	1.0
3=greatly improved, 2=slightly improved, 1=not improved		

The Graduate and Transfer surveys also measure student perceptions of learning (Table 3). The percentage of former students that said NMC made a contribution to their growth in improving their ability to express ideas in writing and in improving their research skills has increased by about five percent.

Table 3. Perceptions of Former Students: Percent reporting that NMC contributed to improving...	Transfer 2005	Graduate 2005	Transfer 2004
1. ability to express ideas in writing	85.3	86.1	80.0
2. research skills	81.5	85.7	76.0

Significant Findings

While students perceive that their achievement of the Communications capabilities has improved as a result of their NMC experience, the artifacts show we still have areas needing improvement. Gains in performance this last year were made in a trended weak area: using coherent and mechanically sound language. We expect continuing improvement in that skill as the Communications academic area and Curriculum Committee implement several curricular changes. As presented here, these changes are organized by the extent of their impact on the college:

- I. Changes across the curriculum
 - a. Develop writing-intensive guidelines for faculty
 - b. Adopt common writing standards (handbook and website)
- II. Changes within an academic area affecting most of the college's students
 - a. Implement Freshman Composition Capstone project
 - b. Sequence English Composition courses
- III. Changes to address specific student needs
 - a. Create developmental Fundamentals of Writing course
 - b. Establish English as a Second Language (ESL) tutoring and classes

With regard to improvements in the assessment method, the Communications outcome rubric was revised by the Scholarship Action

Group with input from the Composition Board in Communications this past year. The result is a rubric with concise capability statements and descriptors that is more easily applied to scoring the artifacts. Moreover, a larger sample of artifacts was scored in spring 2005 allowing broader generalizability of results. Communications artifacts will again be collected in spring 2006 as part of a new cycle of assessment. Along with some formative assessment methods, the spring 2006 artifacts will measure the impact of the curricular changes outlined above.

Critical Thinking

For the Critical Thinking outcome, students performed best at identifying the issue or problem (see Table 4: CT1). With the increased sample size in spring 2005, a larger percentage of students performed at the sufficient level or above on all the capabilities when compared to fall 2004. This is further testament that we cannot rely on results from small sample sizes to suggest areas for curricular change. The weakest skill was the ability to demonstrate an understanding of different perspectives, a trended weak area. The results from the near-graduates show that we are close to the goal of 100% sufficiency on the ability to identify the issue or problem (Table 4, CT1), but that we still have room for improvement on the other capabilities.

Table 4. Percentage of students scoring Sufficient or better: Critical Thinking		Near-graduates (Spring 2005) (N=48)	Spring 2005 (N=121)	Fall 2004 (N=47)
CT1	Identifies issue or problem	95.8	86.8	55.3
CT2	Demonstrates an understanding of different perspectives	N too small	47.7 (N=65)	18.9 (N=37)
CT3	Uses information to results issue or problem	81.3	77.0	51.1
CT4	Applies reasoning to resolve issue or problem	77.1	64.4	34.0
CT5	Draws conclusions that resolves issue or problem	74.9	57.8	34.0

On the Student Perceptions Survey, students perceive their greatest gains in their ability to use information to solve problems (Table 6, #3). This finding is consistent with previous semesters. Still 12% believe that identifying the parts of an argument or problem was not applicable to their critical thinking class.

Table 6. Student Perceptions Survey, Critical Thinking	Fall 2004 (N=339)	
	Mean	% NA
1. My ability to identify the parts of an argument or problem has:	2.37	12%
2. My ability to evaluate different ways to solve a problem has:	2.44	2%
3. My ability to use information in solving a problem has:	2.51	2%
4. My ability to reason clearly and to draw conclusions based on information has:	2.41	3%
5. My ability to draw conclusions has:	2.36	5%
3=greatly improved, 2=slightly improved, 1=not improved		

Fewer former students from the Graduate and Transfer surveys perceived that NMC had contributed to their ability to think critically and solve problems than last year (Table 7).

Table 7. Perceptions of Former Students: Percent reporting that NMC contributed to improving...	Transfer 2005	Graduate 2005	Transfer 2004
1. ability to identify a problem and evaluating different ways to solve the problem	86.3	N/A	N/A
2. ability to think critically and solve problems	76.8	90.7	90.5

The CAAP Critical Thinking test results confirm the artifact findings. Analyzing the argument or identifying the problem was the strongest skill from the CAAP results (Table 5, #1). Near-graduates outperformed those students with fewer NMC credit hours. Generally, over time the scores of the test-takers are consistent.

Table 5 CAAP Critical Thinking Test: Results comparison	Spring 2005 (N=456)	Near-graduates (Spring 2005) (N=106)	Fall 2003 (N=152)	Fall 2002 (N=120)
1. Analyzing the argument (% correct)	70.0	73.0	65.5	67.0
2. Evaluation of the argument (% correct)	60.0	63.3	60.0	53.3
3. Extension or concluding argument (% correct)	56.0	63.7	58.3	58.3
4. Mastering analysis (%)	80%	86%	74%	87%
5. Mastering analysis and evaluation (%)	52%	66%	51%	52%
6. Mastering all three skills (%)	35%	42%	36%	44%
7. Perfect scores	5	1	0	0
8. Percent scoring <u>above</u> the national average (60.5) for 2-yr colleges	67%	77%	60%	60%

Significant Findings

From the last update and from the CAAP after action reports, an important finding is that the critical thinking skills are a packaged skill set. This finding was confirmed again this year in the spring 2005 CAAP test administration. While gains in student performance were made from fall 2004 to spring 2005 in all the critical thinking skills, both the artifact method and the CAAP results indicate that demonstrating an understanding of different perspectives in solving a problem should be considered the skill most needing improvement.

Cultural Perspectives

The previous general education assessment update reported that the Cultural Perspectives outcome in its entirety was supported in only 7 courses in fall 2003. It was determined by Curriculum Committee that because the outcome as defined was not pervasively supported across the curriculum, it should be

eliminated as a general education outcome, and that aspects of the outcome should be incorporated into the general education philosophy statement. The recommendation of Policy Council after hearing comments at the public hearing on the proposal was to have Curriculum Committee research how other colleges with a cultural/diversity outcome define and assess it. Curriculum Committee has compiled information from other colleges and plans to review it in fall 2005. It also plans to hold college-wide conversations on redefining the outcome and has since withdrawn the proposal to eliminate the outcome. Although artifacts were collected for the Cultural Perspectives outcome in fall 2004 and spring 2005, they were not scored.

The Cultural Perspectives Student Perceptions Survey was administered in fall 2004 to 225 students (Table 8). Generally, students believe that their knowledge greatly improved in all the capabilities as a result of taking the course they were in. The mean is higher for each Cultural Perspectives capability than for either of the other two outcomes.

Table 8. Student Perceptions Survey, Cultural Perspectives	Fall 2004 (N=225)	
	Mean	% NA
1. My ability to be open to other opinions besides my own:	2.40	6%
2. My awareness of different cultural viewpoints:	2.65	1%
3. My ability to understand the contributions and influences of different cultures and people has:	2.61	2%
4. My ability to talk about the economic, historical, political or social aspects of a culture has:	2.46	1%
5. My ability to evaluate how different cultures affect each other and the world has:	2.55	3%
3=greatly improved, 2=slightly improved, 1=not improved		

Moreover, former students from the Graduate and Transfer surveys increasingly reported that NMC contributed to their growth in developing openness to opinions other than their own and in broadening their awareness of other cultural viewpoints (Table 9).

Table 9. Perceptions of Former Students: Percent reporting that NMC contributed to improving...	Transfer 2005	Graduate 2005	Transfer 2004
1. Developing an openness to opinions other than my own	85.2	83.0	82.8
2. Broadening my awareness of other cultural viewpoints	70.6	77.0	65.2

Significant Findings

Even with the limited exposure of students to the Cultural Perspectives outcome as it is defined, students took Cultural Perspectives courses reported that the course greatly improved their knowledge. However, 21% of the transfer students in 2005 still said NMC made no contribution to broadening their awareness of other cultural viewpoints. With a newly defined outcome, the assessment measures will need to be revised as well. This will be a task for the Scholarship Action Group in the coming year.

