

COMMUNITY COLLEGE OF PHILADELPHIA

*Assessment of Mission Effectiveness: Student Progress in
Development of General Education Skills
and Affective Attributes*

OFFICE OF INSTITUTIONAL RESEARCH

Report # 149

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Student Progress in Development of General Education Skills and Affective Attributes

Introduction

The General Education Standard in Middle States *Characteristics of Excellence* is as follows:

The institution's curricula are designed so that students acquire and demonstrate college-level proficiency in general education and essential skills, including oral and written communication, scientific and quantitative reasoning, critical analysis and reasoning, technological competency, and information literacy.

In addition to these established general education goals, the College's Mission commits the institution to creating an environment that encourages students to achieve interpersonal growth, an appreciation for diversity, intellectual curiosity, and community involvement.

A recently released Institutional Research report¹ explored the growth of CCP graduates relative to the development of general education skills and affective attributes and determined the College effectively provided graduates with opportunities and experiences that support this aspect of its Mission. The present report approaches the assessment of general education skills development from a slightly different perspective by tracking student progress across a variety of enrollment milestones that range from first time enrollment through graduation.

Data Collection

The data utilized in this report were gathered from two separate questionnaires, the CCP Survey of Graduates and the Middle States Student Survey. The Graduate Survey, which is conducted annually, has been structured to enable assessment of the degree to which the College's graduates have achieved their educational, employment, and transfer objectives. Additionally, graduates have been asked to provide self-assessments of the progress made at CCP in the area of general education.² The

¹ IR Report #146: Assessment of Mission Effectiveness: Development of General Education Skills for 2003 CCP Graduates is available on the IR homepage: http://www.ccp.edu/VPFIN-PL/ir/reports_available_on.htm

² These reports (the Graduate Survey and Middle States Response reports) are available on the Institutional Research website (www.ccp.edu/VPFIN-PL/ir/reports_available_on.htm). The full Middle States Self Study Report (January 2004) is available on the IR Homepage (http://www.ccp.edu/vpacaff/middlestates/Self_Study/Index.htm)

information in this report draws on the self-assessment data collected from respondents to the 2003 and 2004³ Graduate Surveys.

The Middle States Self-Study Student Survey was the other source of information referenced in this report. During the last several weeks of the spring 2003 term, current CCP students were surveyed in order to provide input to the Self-Study process. A total of 1,031 CCP students in spring 2003 participated in the survey. The questionnaire that was used to survey students explored issues related to *Middle States Characteristics of Excellence*, including the aforementioned General Education Standard. Consequently, a set of questionnaire items that paralleled those in the Graduate Survey provided current student self-assessments of the progress made at CCP in the area of general education and affective attribute development.⁴ Table 1 lists the specific goals addressed on both questionnaires. Progress for each item was rated on a four point scale: 0) no progress; 1) little progress; 2) some progress; and 3) considerable progress.

Table 1
General Education Goals and Affective Attributes

1. Improved my oral communication skills
2. Improved my written communication skills
3. Improved my quantitative reasoning skills
4. Improved my scientific reasoning skills
5. Improved my ability to critically evaluate ideas
6. Developed an interest or openness to new ideas
7. Developed a better understanding of my own and different cultures
8. Enhanced my ability to work as part of a group
9. Developed interpersonal skills and the ability to relate to others
10. Improved my preparation for active participation in community activities
11. Developed into a more informed citizen

³ The 2004 Graduate Survey was in progress at the time this report was issued. The information analyzed in this report was based on responses received as of June 1, 2005.

⁴ The following link will take you to the Middle States website which contains information concerning the nature of the Standard Committees: <http://www.ccp.edu/vpacaff/middlestates/index.htm>.

Group Comparisons

A cross-sectional database was assembled to enable the assessment of student progress over enrollment milestones. To accomplish this, respondents to the Middle States Survey were placed into one of four groups based on the number of credits they had accumulated at the time of the survey. These four groupings were: 1) New students in spring term⁵ = 0 earned credits ; 2) Freshmen = 1 to 24 earned credits; 3) Sophomores = 25 to 48 earned credits; and 4) Post Sophomore = 49 or more earned credits. Respondents to the Graduate Survey comprised a fifth group. Table 2 contains information concerning the size of survey respondents in these groups.

Table 2
Distribution of Students by Enrollment Status

Student Status	Frequency	Percent
New (0 credits)	259	16.1
Freshmen (1-24 credits)	459	28.4
Sophomore (25-48 credits)	180	11.1
Post-Sophomore (49+ credits)	133	8.2
2003 & 2004 Graduates	585	36.2
Total	1616	100.0

General Education Goals

A factor analysis of the questionnaire items in Table 1 defined two clusters. Items 1 through 5 comprised a general education factor while items 6 through 11 defined the affective attribute factor.

Table 3 contains group means associated with the responses to the items that represent the General Education cluster. The overall pattern reflected in the group means is intuitive. Students made steady progress across the five general education skills areas as they earned more credits at the College. The information in the last column of Table 3, which is the difference in the means at graduation and at

⁵ The survey was conducted during the latter weeks of the spring semester so that first-time students had a basis for assessing their CCP experiences.

point of initial enrollment, indicates that greatest overall progress from start to finish was made in the area of scientific reasoning and oral communication skills.

Table 3
Progress on General Education Skills by Enrollment Status

	Mean Responses ⁶					
	Enrollment Status					
	New	Freshmen	Sophomore	Post Sophomore	Graduates	Difference between Graduates and First-time
General Education Skills						
Improved my oral communication skills	1.68	1.95	2.16	2.27	2.41	0.73
Improved my written communication skills	1.96	2.14	2.32	2.33	2.53	0.57
Improved my mathematical/quantitative reasoning skills	1.79	1.82	1.90	2.06	2.43	0.64
Improved my scientific reasoning skills	1.47	1.70	2.01	2.06	2.27	0.80
Improved my ability to evaluate ideas more critically	1.76	1.97	2.26	2.34	2.41	0.65
Overall Mean	1.73	1.92	2.13	2.21	2.41	0.68

Comparing all contiguous group means in the rows of Table 3 indicates the ‘growth spurts’ in development of general education skills. The largest gains in developing the ability to critically evaluate ideas occurred within the first 48 credits at CCP with more modest gains thereafter. While not as substantial, the same was true for development of oral communication skills.

The most significant finding in Table 3 is associated with mathematical/quantitative reasoning skills. While initial progress in this area was very modest, there was a significant growth spurt in the latter stages of enrollment. Since so few CCP students persist to graduation or to sophomore status, this suggests that many CCP students leave the College without making significant gains in this area of general education.⁷

⁶ The possible range is 0 to 3 where 0 = no progress and 3 = considerable progress.

⁷ These conclusions are also supported by the ANOVA statistics contained in Table 5 which appear in the Appendix.

Affective Attribute Goals

Table 4 contains group means associated with the items that represent the Affective Attributes factor. With a few exceptions, students continued to make progress across the affective attributes as they earned more credits at the College. Greatest overall progress from start to finish was made in the areas of informed citizenry and understanding world cultures.

Once again, analysis of the contiguous group means in Table 4 reveals the ‘growth spurts’ in development of affective attributes. Comparisons across enrollment groups results in several interesting observations. Most progress in developing openness to new ideas appears to have occurred within the first 48 credits of coursework at the College while substantive progress in developing an understanding of world cultures occurred at the initial stages of enrollment and again as students moved closer to graduation. By contrast, greatest gains in preparation for active community participation occurred during the sophomore experience. Given the low persistence rates for most students, this may indicate that few students make significant progress in this area while at the College.

Summary

The information in this report and IR Report # 146 supports the Middle States Evaluation Team’s observation that the College is effectively providing students with opportunities and experiences that are designed to encourage students to acquire college-level proficiency in general education and other essential skills. While the information in Report # 146 documents the general education accomplishments of CCP graduates, the information in the present report provides details related to when student growth typically occurs. In many cases, student general education accomplishments are progressive and continue to be enhanced as students earn more credits at the College. The same is true for student development of affective attributes.

Table 4

Progress on Affective Attributes by Enrollment Status

	Mean Responses ⁸					
	Enrollment Status					
	New	Freshmen	Sophomore	Post Sophomore	Graduates	Difference between Graduates and First-time
Affective Attributes						
Developed an interest or openness to new ideas	1.97	2.13	2.43	2.42	2.53	0.56
Developed a better understanding of my own and different world cultures	1.57	1.87	1.98	2.09	2.40	0.83
Preparation for active participation in my community	1.37	1.43	1.73	1.97	2.10	0.73
Developed into a more informed and active citizen	1.45	1.65	1.91	2.09	2.43	0.98
Enhanced my ability to work as part of a group	1.84	2.00	2.23	2.41	2.40	0.56
Developed more interpersonal skills	1.82	1.97	2.22	2.37	2.44	0.62
Overall Mean	1.67	1.84	2.08	2.23	2.38	0.71

There were exceptions to this pattern. The most significant deviation from this pattern of steady progress through to graduation was associated with the development of mathematical/quantitative reasoning skills. The information in this report suggests that students make little progress in this area of general education until they approach graduation. Given the modest long-term persistence rates characteristic of CCP students, it is likely that many students do not make significant progress in developing mathematical/quantitative reasoning skills prior to departure from the College.

The Middle States Evaluation Team suggested in its report *that it may be time to shift focus from what should be included in a general education program to assessing what students are able to do, as a result of what they are now being taught and provide evidence that the assessment has resulted in curricular improvement.* While much of the information in this report indicates that the College is

⁸ The possible range is 0 to 3 where 0 = no progress and 3 = considerable progress.

effectively addressing its general education mission, it also points out the existence of some disparities in student achievement that should be addressed by the College.

Appendix

Tables 5 and 6 in the Appendix contain analysis of variance (ANOVA) statistics associated with post hoc significance tests of the group means that appear in Tables 3 and 4. A significance level of 0.05 or less (represented with **bold** font in the tables) indicates the presence of significant group difference.

**Table 5: ANOVA Results – Significance Testing
Significance Levels Associated With Post-Hoc Group Comparisons Across General Education Skills**

Enrollment Status	Significance Levels					Survey Item: General Education
	First-Time	Freshmen	Sophomore	Post Soph.	Graduates	
First-Time						Improved my oral communication skills
Freshmen	.001					
Sophomore	.000	.265				
Post Sophomore	.000	.023	.839			
Graduates	.000	.000	.105	.877		
First-Time						Improved my written communication skills
Freshmen	.187					
Sophomore	.024	.649				
Post Sophomore	.000	.005	.302			
Graduates	.000	.000	.047	1.000		
First-Time						Improved my mathematical/quantitative reasoning skills
Freshmen	.976					
Sophomore	.737	.314				
Post Sophomore	.111	.015	.733			
Graduates	.000	.000	.000	.034		

**Table 5: ANOVA Results – Significance Testing
Significance Levels Associated With Post-Hoc Group Comparisons Across General Education Skills
(Continued)**

Enrollment Status	Significance Levels					Survey Item: General Education
	First-Time	Freshmen	Sophomore	Post Soph.	Graduates	
First-Time						Improved my scientific reasoning skills
Freshmen	.014					
Sophomore	.000	.031				
Post Sophomore	.000	.000	.356			
Graduates	.000	.000	.125	1.000		
First-Time						Improved my ability to evaluate ideas more critically
Freshmen	.016					
Sophomore	.000	.077				
Post Sophomore	.000	.001	.625			
Graduates	.000	.000	.427	1.000		

**Table 6: ANOVA Results – Significance Testing
Significance Levels Associated With Post-Hoc Group Comparisons Across Affective Attributes⁹**

Enrollment Status	Significance Values					Survey Item: Affective Attributes
	First-Time	Freshmen	Sophomore	Post Sophomore	2003 & 2004 Grads	
First-Time						Developed an interest or openness to new ideas
Freshmen	.026					
Sophomore	.000	.050				
Post Sophomore	.000	.040	.997			
Graduates	.000	.000	.740	.960		
First-Time						Developed a better understanding of my own and different world cultures
Freshmen	.003					
Sophomore	.000	.573				
Post Sophomore	.000	.130	.902			
Graduates	.000	.000	.007	.307		
First-Time						Preparation for active participation in my community
Freshmen	.921					
Sophomore	.014	.042				
Post Sophomore	.000	.000	.255			
Graduates	.000	.000	.042	1.000		
First-Time						Developed into a more informed and active citizen
Freshmen	.048					
Sophomore	.000	.163				
Post Sophomore	.000	.001	.487			
Graduates	.000	.000	.000	.026		

⁹ As illustrated in Table 6 the significance of the mean growth differences between New students and Freshmen are frequently more significant than group mean differences between Post-Sophomores and Graduates. A measurement issue may account, in part, for the greater homogeneity of responses across Post-Sophomore and Graduate groups. The mean number of credits earned by the Post-Sophomore group was 67, which is very similar to credit requirements for graduation.

**Table 6: ANOVA Results – Significance Testing
Significance Levels Associated With Post-Hoc Group Comparisons Across Affective Attributes
(Continued)**

Enrollment Status	Significance Values					Survey Item: Affective Attributes
	First-Time	Freshmen	Sophomore	Post Sophomore	Graduates	
First-Time						Enhanced my ability to work as part of a group
Freshmen	.013					
Sophomore	.003	.782				
Post Sophomore	.000	.017	.384			
Graduates	.000	.000	.301	.995		
First-Time						Developed more interpersonal skills
Freshmen	.003					
Sophomore	.000	.538				
Post Sophomore	.000	.035	.705			
Graduates	.000	.000	.146	.984		