



Progress Report to the
Middle States Commission on Higher Education
from
Herbert H. Lehman College, The City University of New York
Bronx, NY 10468

Ricardo R. Fernández, President

Anny Morrobel-Sosa, Provost and Senior Vice President for Academic Affairs
Accreditation Liaison Officer

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Subject of the Follow-Up Report:

“To accept the monitoring report. To request a progress report due by April 1, 2013, documenting evidence that assessment results are used to improve teaching and learning. The Periodic Review Report is due June 1, 2014.”

At its session on June 23, 2011, the Middle States Commission on Higher Education acted to accept the monitoring report submitted by Herbert H. Lehman College (hereafter referred to as Lehman College) on April 1, 2011 and to "...request a progress report due on April 1, 2013 documenting evidence that assessment results are used to improve teaching and learning." This report documents the continued progress made at Lehman College in assessing expected student learning outcomes.

As noted in our Monitoring Report submission two years ago, there was little formalized assessment taking place at Lehman College the time of the Middle States Commission's last decennial review in 2009, and that which was occurring was not well documented. Major, sustained efforts were put forth to change this dynamic in the past four years. This report details the ways in which assessment results have been used to improve teaching and learning. In addition, six new initiatives designed to assess student learning and improve institutional effectiveness are presented in this report.

Lehman College's General Education Program

We have made significant strides in assessing student learning in Lehman College's General Education Program; hereafter referred to as *Gen Ed*. As indicated in the Monitoring Report, the *Gen Ed* curriculum piloted its first formal assessment of student learning in fall 2010 using a portfolio approach that included samples of student work and faculty reflections indicating which objectives were addressed, and how well students achieved them. A more robust assessment that included more sections and additional samples of student work was devised for the curriculum's second assessment in fall 2011, this time centering on two of the curriculum's five core fluencies. The fluencies are common to all *Gen Ed* coursework, and identify the skills and abilities students are expected to acquire in order to think, communicate, analyze, and interpret, at the college level. The first fluency examined, *Communication and Language*, encompasses written and oral communication skills. The second, *Critical and Analytical Thinking*, includes the use of multiple disciplinary tools to compare and contrast, to make connections and to explain relationships.

To ascertain how well students are acquiring these fluencies, the assessment focused on the curriculum's only two required topics courses (LEH 300: *The Humanities and Sciences*; and LEH 301: *The American Experience*). These courses serve as "capstone" general education courses and introductions to upper division work. For the first fluency examined, *Communication and Language*, two learning objectives were selected for review: 1) demonstrate skillful use of high-quality, credible, relevant sources to develop ideas that are appropriate for the discipline and genre of the writing, and 2) use language that skillfully communicates meaning to readers with clarity and fluency and is virtually error-free. The second fluency, *Critical and Analytical Thinking*, also included two learning objectives for review: 1) provide conclusions and related outcomes (consequences and implications) that are logical and reflect the student's informed evaluation and ability to place evidence and perspectives discussed in priority order, and 2) independently create wholes out of multiple parts (synthesize) or draw conclusions by combining examples, facts, or theories from more than one field of study or perspective.

Twenty-three LEH course sections (approximately one-third of the sections offered) were contacted at the start of the fall 2011 semester to participate in the assessment. Each instructor

was asked to send one class assignment that reflected on one of the objectives and the work of eight randomly selected students identified by the College's Assessment and Planning Office. Twenty-three assignments were collected, which included the work of 190 students. A team of faculty volunteers met in January 2012 to review the quality of assignments and to assess how well students were achieving the objectives. Assignments were scored on a 1-4 scale (4 = Excellent, 3 = Good, 2 = Okay, 1 = Poor) in terms of how well they addressed two objectives relating to either of the specified fluencies using the Association of American College and Universities' *Value Rubrics for Written Communication and Critical Thinking*, which align with the two competencies under review. The plurality of assignments were rated "Excellent (4)," but nearly half (48%) were rated as just "Okay (2)" or "Poor (1)." A table of the scores is located in Appendix A (Table A1). The results suggest that while the assignments are addressing the core objectives, there is room for improvement. The College's Assessment Council, in conjunction with the Lehman Teaching and Learning Commons, hosted a workshop entitled "Linking Assignments with Course and Program Goals" in fall 2012. This event was well-attended and presented faculty with numerous strategies for devising thoughtful prompts. Faculty also shared examples of current assignments, which were critiqued and analyzed by their peers.

The primary purpose of this project was the assessment of student learning across the four objectives noted above and resulted in an average student rating of 2.3, (middle of the range on 1-4 scale). Seven percent attained the highest score of 4 (Excellent), while 20% received a score of 1 (Poor). Thus, nearly three-fourths of students fell between those two extremes. There were no statistically significant differences between the objectives. The results were not unexpected given that most students in the sample were at the mid-point of their college careers (i.e., having earned approximately 60 credits). However the goal is to ensure that more students achieve at least an intermediate level (3) in the future. The results are tabulated in Appendix A (Table A2).

In spring 2013, the assessment of *Gen Ed* again focused on the LEH 300/301 courses. Assignments are being collected to determine how well they are addressing the four objectives examined the year before. However, due to a restructuring of the CUNY General Education curriculum (discussed in detail below), student artifacts are not being analyzed this semester, but will be collected in the fall 2013 with the introduction of a revised *Gen Ed* curriculum.

Program Level

Each degree-granting program continues to formally assess student learning on a semi-annual basis (once per semester). Every program is required to submit an assessment plan at the start of the fall and spring semesters, and to report on the results of these assessments at the conclusion of each term. At the end of the year, programs are expected to describe any changes they have implemented or plan to make as a result of these assessments. This process has now been in place for three years, and has resulted in notable changes to the curriculum and to pedagogy, several of which are highlighted below.

The Geography program undertook an assessment of the introductory Geography course (GEH 101) to determine how well students were able to differentiate and identify major types of maps and their use. A pre/post design was employed to ascertain whether improvement in learning occurred. Analysis of the results suggests that students' knowledge of various types of maps

increased based on performance on the original diagnostic quiz (pre-test) compared with performance on a quiz given at the conclusion of the course, but room for improvement remained. As a result of this assessment, several changes have been enacted to help improve student performance. These include: 1) emphasizing concepts at the start of the semester in every lecture; 2) asking students to provide examples and to describe different types of maps (in addition to quizzes); 3) adding exercises; and 4) adding readings about maps.

The Recreation Education program evaluated the *Research and Evaluation of Recreation Services* course, a consistently difficult class for students to master. Faculty have worked for many years on strategies to facilitate students' learning and completion of one of the central components of this class – the completion of a research proposal. An embedded tutor was assigned to this course in fall 2011 to assist the instructors with planning and executing in-class writing activities, including individual and small group work. Student performance (as measured by average course grades from the two years prior) improved, but more significantly, all of the students passed the course for the first time. Moreover, a majority of students indicated in a follow-up survey that the tutor was at least partially responsible for their success. Additional opportunities for tutors to participate in this class will be explored as a result of this review.

The Biology program's last assessment focused on how well students were able to meet their goal of "Defining scientific methods and analyzing data from basic research." To assess this goal, the department analyzed the written laboratory reports of students in the second semester of its Introductory General Biology course. The results of this assessment, as noted in Table 1 below, revealed that students performed satisfactorily on all three learning objectives pertaining to this goal: 1) state a proper falsifiable hypothesis; 2) model biological problems for scientific testing; and 3) execute scientific techniques to derive quantifiable data for statistical analysis. The results also suggest that students possess a good foundation for biology instruction by the end of their first year of course instruction.

Table 1: Results Biology Program's Assessment: Spring 2012

Learning Objective	Exceeds	Meets	Approaches	Does not meet
LO1	0 (0%)	57 (80%)	14 (20%)	0 (0%)
LO2	5 (7%)	55 (77%)	11 (15%)	0 (0%)
LO3	3 (4%)	48 (68%)	20 (28%)	0 (0%)

Information gathered in this assessment has also helped the Department to redesign the manner in which two basic biology laboratory courses (BIO 166: *Principles of Biology: Cells and Genes*; and BIO 167: *Principles of Biology: Organisms*) are taught. A combination of wet/virtual labs with an online instructional component (videos, interactive assignments) will be added in 2013. In addition, laboratory instructors received training in how to teach this new laboratory curriculum. Students will be assessed in spring 2013 to determine if these additional changes have made a difference in student outcomes.

The Sociology program's approaches demonstrate how assessments have been used to help improve teaching and learning and are another useful example of our overall progress in this effort. The program has been concerned about students' quantitative reasoning and statistical

knowledge for several years. The department developed an online test to measure this knowledge and administered it to students in the program's two required courses (SOC 246: *Sociological Analysis* and SOC 346: *Methods of Social Research*) in spring 2011, fall 2011, and spring 2012 (see Appendix B for sample questions from the test). In all three semesters, the pass rate on the overall knowledge of descriptive statistics part of the test was lower than expected. Bivariate relationships, in particular, seem to give students a lot of difficulty — less than half of the several hundred students were able to pass this portion of the test over the course of the three semesters. In addition, it was revealed that students enrolled in the SOC 346 sections reported having taken just two courses offering opportunities to use and analyze data. This is half of the expected number of courses for Sociology majors.

Several changes have been made as a result of these findings. First, the department added a new course, SOC 300: *Sociological Imagination*, intended to introduce students to the requirements of logic in contemporary sociological research at a more advanced level than the program's current introductory course, SOC 166: *Fundamentals of Sociology*. Second, new guidelines for instruction in quantitative reasoning were developed, and are regularly shared with all instructors at the start of each semester. These guidelines include a small, well-defined number of skills for the faculty to incorporate at least once in each course. Last, the program reorganized its required sequence of courses for the major (the basic pre-requisite for sociology as a major was broadened to include at least one 200-level course, and several courses that had been 200-level were upgraded to 300-level). This last change was made primarily to respond to the new *CUNY 2013 General Education Program* (also known as *Pathways*) intended to streamline student transfer. This should also help all students with the acquisition of quantitative literacy, which is part of *CUNY 2013 General Education Program's* Required Core (refer to Appendix C for the learning outcomes).

Assessments occurring in the School of Education merit special mention, not only because it has the largest graduate-level enrollment, but also because it has been gathering student learning evidence for years as it prepares for NCATE (National Council for Accreditation of Teacher Education) reaccreditation in 2014. The School of Education has designed and implemented a Unit Assessment System that is aligned with its Conceptual Framework (Lehman Urban Transformative Education, LUTE) as well as professional, state, and national standards. This system collects and analyzes data on candidates, faculty members, cooperating teachers, placements, unit assessments, and all programs leading to certification as teachers and other school professionals. Each Educator Preparation Program within the School has identified four key transition points in candidates' careers (admission, entrance to clinical experience, program completion, and follow-up), which represent a sequential progression of their development of knowledge, skills, and dispositions. The assessments are appropriate because the candidates have had the opportunity to learn and practice what is being assessed. Decisions about candidates are based on multiple assessments. Candidates and evaluators are given specific directions and information about the assessments including the rubrics that are used.

The Unit assessments are meant to reflect general outcomes that are applicable across all educator preparation programs. In addition to general outcomes assessments, program-specific key assessments are aligned with professional standards of Specialized Professional Associations (SPAs) and administered throughout the candidates' course of study. *TaskStream* (assessment

management software) is used for collecting assessment data consistently across the School of Education via course assignments, forms, and rubrics. These data are housed in *TaskStream* and reviewed by faculty and staff members, program coordinators, department chairs, deans, and the assessment coordinator on a regular basis. There are additional data collected from candidates, alumni, and P-12 partners via surveys (both paper and electronic) to evaluate the quality of our educator preparation programs and from government agencies such as New York State Education Department and New York City Department of Education for information about the quality of our graduates.

Data are used to improve curriculum, classroom instruction, field experiences, staffing, and policies. Aggregate assessment data on candidates and graduates are shared and discussed at monthly School meetings, an annual midyear retreat, and advisory council meetings. Leadership in the School of Education strives to make evidence-based decisions that allow the Unit to recruit, retain and graduate candidates who can positively impact P-12 student populations. A complete summary of activities, changes and future actions informed by data are available in Appendix D.

New Initiatives

Since 2011 we have implemented six new initiatives that directly or indirectly impact student learning and the assessment of student learning: New *CUNY 2013 General Education Curriculum* (also known as *Pathways*); Collegiate Learning Assessment; Writing Council; Assessment Management Software Implementation; School of Arts and Humanities Pilot Assessment; and an Alumni Study. Though these initiatives have not been in place long enough for any substantive changes to have been made as a result of assessments, we chose to highlight them here because they will have a substantive impact on the curriculum and will continue to be evaluated in the years ahead.

1. Lehman College's General Education Program and the New CUNY 2013 General Education Curriculum (also known as Pathways)

Perhaps the most noteworthy and far-reaching change since Lehman College's last report has been the modifications to Lehman's General Education Program. Some of these changes are the result of a new CUNY-wide degree-completion initiative "designed to create a new curricular structure that will streamline transfer and enhance general education across the university."¹

Historically, each CUNY institution devised its own general education curriculum and major requirements. This independence created many transferability problems for students seeking to move within the CUNY system because credits earned at one CUNY institution were often not easily transferable to another CUNY institution. As a result, many students frequently earned well over the minimum 120 credits required by baccalaureate degree programs. These additional credits lengthened time to degree and discouraged some students from completing their studies. The new *CUNY 2013 General Education Program* is intended to make student movement within the system more efficient and to improve time-to-completion. It will be fully implemented in fall 2013.

¹ <http://www.cuny.edu/academics/initiatives/pathways/about/archive/about.html>

The *CUNY 2013 General Education* framework is an example of how data-informed assessments of institutional effectiveness (system-wide assessment for that matter) have resulted in substantive change to the curriculum. The framework consists of three components: 1) a “Required Common Core” (12 credits, 4 courses), 2) a “Flexible Common Core” (18 credits, 6 courses), and 3) a “College Option” which allows the senior colleges to specify up to 12 additional credits of general education coursework that Bachelor’s degree students must complete. The Required and Flexible Common Core is mandated for all CUNY 2-year and 4-year institutions. A description of the Common Core and College Option for Lehman College is located in Appendix C. The *CUNY 2013 General Education Program* also created “gateway courses” for the largest transfer majors. Faculty committees representing several popular transfer majors at CUNY designated a minimum of three common and transferable courses that will be required for students in those majors. Students wishing to major in these fields can begin their coursework at any CUNY college with the assurance that if/when they transfer to another CUNY school, their prior coursework will fully count toward their continued pursuit of that major.

For the past several months, many Lehman College faculty and others throughout CUNY have been working to determine which courses satisfy the requirements of the Common Core Curriculum framework and which courses to include in the College Option, by aligning course learning objectives with the student learning outcomes defined by the *CUNY 2013 General Education* initiative. CUNY is currently discussing ways to support university- and college-wide assessments of student learning outcomes of these courses to ensure that they are promoting student achievement at expected levels.

2. *Collegiate Learning Assessment*

The recent piloting of the Collegiate Learning Assessment (CLA) test, with a first round of baseline data on freshmen initiated in fall 2012, is another of our assessment initiatives. The CLA is designed to measure an institution’s contribution to the development of higher-order skills including: Analytical Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem Solving. Subsequent assessment will sample seniors. The initial results revealed that Lehman students are at or slightly above the average on most of the subcategories measured. (The complete 2012 CLA report for Lehman College is located in Appendix E.) When fully implemented, the CLA will provide the College with results that can be compared with those of similar institutions (including non-CUNY schools) so that this information can be used to improve teaching and learning.

3. *Writing Council*

A third noteworthy initiative begun within the past two years was the establishment of the College’s Writing Council. The Council was created at the request of the President to provide leadership and guidance in defining and upholding the expectations of composition and writing intensive courses across the College. It is charged with the following tasks:

- Support existing efforts, i.e., WIM (Writing in the Majors), initiate new efforts as needed, and -- in consultation with deans, chairs and programs directors -- approve writing intensive courses as they are proposed and before they are scheduled to be taught;
- Exercise similar authority over composition courses; and
- Take responsibility for comprehensive assessment of writing courses, in order to maintain the consistency and integrity of these courses.

The Council has been collecting documentation over the last ten months to assess the current state of the writing curriculum as well as the quality of student writing. The timeline for completing the work of the Writing Council is available in Appendix F.

4. Assessment Management Software Implementation

In Lehman College's 2011 Monitoring Report, it was noted that a College committee recommended the purchase of *TaskStream*, the assessment management software designed to help organize the collection of data and other assessment-related information. The purchase of this software was needed to alleviate past difficulties some programs were having regarding the organization of assessment related documents. As of November 2011, both academic and administrative departments are using *TaskStream* across the College to document and facilitate assessment-related activities across the institution.

5. Pilot Assessment in the School of Arts and Humanities

The School of Arts and Humanities is piloting a new assessment initiative in spring 2013 to increase faculty participation in the development, use and improvement of learning outcomes and assessment. At the center of this program are eleven (11) faculty Assessment Coordinators (formerly Assessment Ambassadors) charged with managing assessment projects in their respective departments and to communicate with their colleagues regarding assessment related activities. The Coordinators have been provided with reassigned time (three hours per year) to engage in these efforts. Competitive grants will be awarded to departments to help improve teaching and learning based on the outcomes of these projects. Further, all decision-making related to co-curricular experiences in Arts and Humanities (invited speakers, performers, workshops, etc.) is based on how these experiences will support identified student learning outcomes. Each of these funded co-curricular activities must include the production of a student artifact and a survey of the experience.

6. Alumni Study

An examination of the academic and career pursuits of alumni and their perceptions about Lehman College five years subsequent to completion of their baccalaureate degrees was another project undertaken last year. This research was designed to help answer the frequently asked question at Lehman College and throughout higher education of "*How well are we preparing our students?*" In summer 2012, the Office of Assessment and Planning, using data from the National Student Clearinghouse and the college's student information system, was able to determine that 43% of the 1,292 baccalaureate degree recipients from 2006-07 attended, or were currently enrolled in a graduate-level program in the five years since earning their degrees. The same percentage, (43%)

completed their advanced degree during this time period. Table 2 below provides a synopsis of where these graduates went after graduation.

Table 2: 2006-07 Bachelor Degree Recipients Attending Graduate School within Five Years

	Lehman College		CUNY (non-Lehman)		Other		Total	
	N	%	N	%	N	%	N	%
Degrees	232	42%	78	14%	247	44%	557	43%

Select results from this initial study are available in Appendix G. We will expand the study this spring with the 2007-08 cohort of alumni and compare it to national norms.

Conclusion

Since submission of our Monitoring Report in 2011, Lehman College established a formal assessment plan to ensure that each academic degree program and our General Education Program evaluate at least one student learning outcome per year. Several programs in the School of Natural and Social Sciences have made improvements to teaching and learning as a result of assessments of learning outcomes. The pilot being implemented by the School of Arts and Humanities has recognized the importance of assessment by including it as part of the expected departmental workload assignments. The Lehman College Writing Council has initiated a review of composition courses and writing in the majors to improve writing proficiency. We have also conducted various student surveys, such as the *National Survey of Student Engagement* (NSSE) and *Noel-Levitz Student Satisfaction Inventory*. Finally, we will continue to improve upon efforts to track alumni to determine how their Lehman College education has impacted their professional lives.

The processes established to assess student learning at Lehman College more than three years ago are now beginning to result in substantive changes to teaching and learning. With new leadership committed to assessment at the Provost level and in each of the Schools, the progress we have made to date will only be enhanced in the years ahead.

Appendix A

General Education Assessment: Assignment Analysis

Fluency: Communication and Language

Objective 1A: Demonstrate skillful use of high-quality, credible, relevant sources to develop ideas that are appropriate for the discipline and genre of the writing.

Objective 1B: Use graceful language that skillfully communicates meaning to readers with clarity and fluency and is virtually error-free.

Fluency: Critical and Analytical

Objective 2A: Provide conclusions and related outcomes (consequences and implications) that are logical and reflect the student’s informed evaluation and ability to place evidence and perspectives discussed in priority order.

Objective 2B: Independently create wholes out of multiple parts (synthesize) or draw conclusions by combining examples, facts, or theories from more than one field of study or perspective.

Table A1
Assessment of how well assignments addressed the objectives.
Score: 4 = Excellent, 3 = Good, 2 = Okay, 1 = Poor

Objective		Score					Total	Mean	Std. Dev.
		1.0	2.0	3.0	3.5	4.0			
1A	Count	2	1	1	0	2	6	2.50	1.38
	% within Objective	33.3	16.7	16.7	0.0	33.3	.100		
1B	Count	0	4	0	1	2	7	2.79	0.99
	% within Objective	0.0	57.1	0.0	14.3	28.6	100		
2A	Count	0	1	2	0	2	5	3.20	0.84
	% within Objective	0.0	20.0	40.0	0.0	40.0	100		
2B	Count	2	1	0	0	2	5	2.40	1.52
	% within Objective	40.0	20.0	0.0	0.0	40.0	100		
Total	Count	4	7	3	1	8	23	2.72	1.16
	% within Objective	17.4	30.4	13.0	4.3	34.8	100		

General Education Assessment: Student Performance Results

Fluency: Communication and Language

Objective 1A: Demonstrate skillful use of high-quality, credible, relevant sources to develop ideas that are appropriate for the discipline and genre of the writing.

Objective 1B: Use graceful language that skillfully communicates meaning to readers with clarity and fluency and is virtually error-free.

Fluency: Critical and Analytical

Objective 2A: Provide conclusions and related outcomes (consequences and implications) that are logical and reflect the student's informed evaluation and ability to place evidence and perspectives discussed in priority order.

Objective 2B: Independently create wholes out of multiple parts (synthesize) or draw conclusions by combining examples, facts, or theories from more than one field of study or perspective.

Table A2
Frequency distribution of student performance scores for each objective.
Score: 4 = highest level of achievement; 1 = lowest level of achievement

Objective		Score							Total	Mean	Std. Dev.
		1.0	1.5	2.0	2.5	3.0	3.5	4.0			
1A	Count	10	6	15	0	9	0	8	48	2.25	1.00
	% within Objective	20.8	12.5	31.2	0.0	18.8	0.0	16.7			
1B	Count	8	0	24	2	21	4	4	63	2.44	0.82
	% within Objective	12.7	0.0	38.1	3.2	33.3	6.3	6.3			
2A	Count	8	1	12	4	10	4	3	42	2.37	0.92
	% within Objective	19.0	2.4	28.6	9.5	23.8	9.5	7.1			
2B	Count	11	2	9	5	6	4	0	37	2.07	0.88
	% within Objective	29.7	5.4	24.3	13.5	16.2	10.8	0.0			
Total	Count	37	9	60	11	46	12	15	190	2.30	0.91
	% within Objective	19.5	4.7	31.6	5.8	24.7	6.3	7.4			

Appendix B

Sociology Program's Assessment

Univariate and Descriptive Questions:

11. Based on the bar graph above, what is the frequency of individuals who scored higher than 80 on Examination #1?

- a. 5 b. 7 c. 13 d. 21

12. Based on the bar graph above, how many students took Examination #1?

- a. 5 b. 8 c. 32 d. Cannot determine

Questions 13-15. Please answer the following questions based on the following set of 7 numbers.

0, 0, 1, 1, 4, 4, 4

13. What is the median in the above set of numbers?

- a. 0
b. 1
c. 2
d. 4

14. What is the mean in the above set of numbers?

- a. 1
b. 1.5
c. 2
d. 14

15. What is the mode in the above set of numbers?

- a. 0
b. 1
c. 4
d. all of the above

23. Based on the pie chart above, what percent of the U.S. population was *non-white* in 2000?

- a. 12.3% b. 12.6% c. 24.9% d. 75.1%

Bivariate Questions:

Questions 8-10. Read the following statement and answer the following questions.

AIDS rates are higher among blacks than among whites in the United States.

8. What is the independent variable in the above statement?

- a. AIDS rates
b. whites
c. race
d. United States

9. What is the dependent variable in the above statement?

- a. AIDS rates
b. whites
c. race
d. United States

10. Based on the statement above, which of the following is true?

- a. There are more blacks than whites who have AIDS in the United States.
b. The proportion of blacks who have AIDS is higher than the proportion of whites who have AIDS in the United States.
c. Blacks are more likely than whites to die of AIDS in the United States.
d. Whites are more likely than blacks to practice safe sex in the United States.

16. Approximately what percent of females earning \$20,000 to \$29,999 used cocaine in the past month?

- a. 0% b. 5% c. 13% d. 25%

17. Among males, what seems to be the relationship between income and illicit drug use?

- a. There doesn't appear to be any relationship between income and drug use.
 b. As a man's income rises, he makes more use of drugs.
 c. As a man's income rises, he makes less use of drugs.
 d. There is a curvilinear relationship between income and drug use--as income first rises, so does illicit drug use, but in the higher incomes categories there is declining illicit drug use.

Questions 18-22. Please answer the following questions (true/false) based on the table below.

**The Demographic Characteristics of Full-time Physicians Ages 25-64
 Compared to Full-time Workers, 2000**

	Race/Ethnicity						Gender		
	% Non-Latino White	% Black	% Asian	% Latino	% American Indian	% Other		% Male	% Female
Physicians	74.5%	4.5%	14.4%	4.7%	0.1%	1.7%	Physicians	75.1%	24.9%
Full-time Workers	73.4%	11.9%	4.1%	9.8%	0.8%	N/A	Full-time Workers	57.7%	42.3%

N/A = Not Available.

Source: United States Census, 2000

18. True False **About three quarters of physicians are male.**
 19. True False **Altogether, 74.5% of non-Latino Whites are physicians.**
 20. True False **The ratio of female to male physicians is approximately 1 to 3.**
 21. True False **Approximately 1 in 10 full-time workers is American Indian.**
 22. True False **Compared to full-time workers, physicians are disproportionately Asian.**

Appendix C

Lehman College's General Education Program and the CUNY 2013 General Education Curriculum

(as of March 14, 2013)

Lehman College's General Education Program was first implemented in the fall of 2002, and is required of students who have matriculated before fall 2013. It consists of three categories of required courses: Foundation, Distribution, and Integration. Beginning with the fall 2013 semester new freshmen and all transfer students will be required to complete the new *CUNY 2013 General Education Curriculum* (also known as *Pathways*) requirements. Lehman College's General Education Program will continue to retain the same categories of courses in the same relationship for the *CUNY 2013 General Education Curriculum*:

Foundation

- English Composition I and II (2 courses, ENG111, 121, 3 cr. each)
- Mathematics and Quantitative Reasoning (1 course, MAT126, 3 cr., or one of the STEM Variant Courses in this area)
- Laboratory Science (1 course, from the list of Life and Physical Science courses, 3 cr., or 1 of the STEM Variant Courses in this area)
- Foreign language (two semesters of one foreign language, 3 cr. each)

Distribution

- World Cultures and Global Issues (1 course from the category, 3 cr.)
- US Experience and Its Diversity (1 course from the category, 3 cr.)
- Creative Expressions (1 course from the category, 3 cr.)
- Individual and Society (1 course from the category, 3 cr.)
- Scientific World (1 course from the category, 3 cr., or 1 course from the STEM Variant list in this category)
- One course from any one of the above

Integration^{**} (for students who have earned 60 cr. or an Associate's degree and who have declared a major). Choose two courses, 3 cr. each, from the four whose general subject lies outside the area of the declared major:

- LEH 351 Studies in Science & Applied Perspectives
- LEH 352 Studies in Literature
- LEH 353 Studies in the Arts
- LEH 354 Historical Studies
- LEH 355 Studies in Philosophy, Theory & Abstract Thinking

^{**} *Lehman Scholars Program and Macaulay Honors College students are exempt from these requirements.

Writing Intensive Sections

- 4 Writing Intensive sections, 3 before reaching 60 credits, and one upon reaching 60 or above.

For purposes of transferring credits from and to Lehman College, the *Foundation* category includes courses in the “Required Core” and “College Option” blocks, the *Distribution* category is equivalent to the “Flexible Core” block, and the *Integration* category includes courses in the “College Option” block.

The following listing of courses and student learning objectives for each course represents the categories and standards established by CUNY, which fully conforms with Lehman College’s General Education program.

I. Common Core – 10 courses (30 credits)

A. Required Core — 4 courses (12 credits)

1. *English Composition (6 credits)* – A course in this area must meet all of the following learning outcomes. A student will:
 - Read and listen critically and analytically, including identifying an argument’s major assumptions and assertions and evaluating its supporting evidence.
 - Write clearly and coherently in varied, academic formats (such as formal essays, research papers, and reports) using standard English and appropriate technology to critique and improve one’s own and others’ texts.
 - Demonstrate research skills using appropriate technology, including gathering, evaluating, and synthesizing primary and secondary sources.
 - Support a thesis with well-reasoned arguments, and communicate persuasively across a variety of contexts, purposes, audiences, and media.
 - Formulate original ideas and relate them to the ideas of others by employing the conventions of ethical attribution and citation.
2. *Mathematics and Quantitative Reasoning (3 credits)* – A course in this area must meet all of the following learning outcomes. A student will:
 - Interpret and draw appropriate inferences from quantitative representations, such as formulas, graphs, or tables.
 - Use algebraic, numerical, graphical, or statistical methods to draw accurate conclusions and solve mathematical problems.
 - Represent quantitative problems expressed in natural language in a suitable mathematical format.
 - Effectively communicate quantitative analysis or solutions to mathematical problems in written or oral form.
 - Evaluate solutions to problems for reasonableness using a variety of means, including informed estimation.
 - Apply mathematical methods to problems in other fields of study.

3. *Life and Physical Science (3 credits)* – A course in this area must meet all of the following learning outcomes. A student will:
- Identify and apply the fundamental concepts and methods of a life or physical science.
 - Apply the scientific method to explore natural phenomena, including hypothesis development, observation, experimentation, measurement, data analysis, and data presentation.
 - Use the tools of a scientific discipline to carry out collaborative laboratory investigations.
 - Gather, analyze, and interpret data and present it in an effective written laboratory or fieldwork report.
 - Identify and apply research ethics and unbiased assessment in gathering and reporting scientific data.

B. Flexible Core — 6 courses (18 credits)

(one course from each of five areas below, and a sixth from any area)

All Flexible Core courses must meet the following three learning outcomes. A student will:

- Gather, interpret, and assess information from a variety of sources and points of view.
- Evaluate evidence and arguments critically or analytically.
- Produce well-reasoned written or oral arguments using evidence to support conclusions.

1. *World Cultures and Global Issues* - A course in this area must meet at least three of the following additional learning outcomes. A student will:

- Identify and apply the fundamental concepts and methods of a discipline or interdisciplinary field exploring world cultures or global issues, including, but not limited to, anthropology, communications, cultural studies, economics, ethnic studies, foreign languages (building upon previous language acquisition), geography, history, political science, sociology, and world literature.
- Analyze culture, globalization, or global cultural diversity, and describe an event or process from more than one point of view.
- Analyze the historical development of one or more non-U.S. societies.
- Analyze the significance of one or more major movements that have shaped the world's societies.
- Analyze and discuss the role that race, ethnicity, class, gender, language, sexual orientation, belief, or other forms of social differentiation play in world cultures or societies.
- Speak, read, and write a language other than English, and use that language to respond to cultures other than one's own.

2. *U.S. Experience in its Diversity* – A course in this area must meet at least three of the following additional learning outcomes. A student will:
 - Identify and apply the fundamental concepts and methods of a discipline or interdisciplinary field exploring the U.S. experience in its diversity, including, but not limited to, anthropology, communications, cultural studies, economics, history, political science, psychology, public affairs, sociology, and U.S. literature.
 - Analyze and explain one or more major themes of U.S. history from more than one informed perspective.
 - Evaluate how indigenous populations, slavery, or immigration have shaped the development of the United States.
 - Explain and evaluate the role of the United States in international relations.
 - Identify and differentiate among the legislative, judicial, and executive branches of government and analyze their influence on the development of U.S. democracy.
 - Analyze and discuss common institutions or patterns of life in contemporary U.S. society and how they influence, or are influenced by, race, ethnicity, class, gender, sexual orientation, belief, or other forms of social differentiation.

3. *Creative Expression* – A course in this area must meet at least three of the following additional learning outcomes. A student will:
 - Identify and apply the fundamental concepts and methods of a discipline or interdisciplinary field exploring creative expression, including, but not limited to, arts, communications, creative writing, media arts, music, and theater.
 - Analyze how arts from diverse cultures of the past serve as a foundation for those of the present, and describe the significance of works of art in the societies that created them.
 - Articulate how meaning is created in the arts or communications and how experience is interpreted and conveyed.
 - Demonstrate knowledge of the skills involved in the creative process.
 - Use appropriate technologies to conduct research and to communicate.

4. *Individual and Society* – A course in this area must meet at least three of the following additional learning outcomes. A student will:
 - Identify and apply the fundamental concepts and methods of a discipline or interdisciplinary field exploring the relationship between the individual and society, including, but not limited to, anthropology, communications, cultural studies, history, journalism, philosophy, political science, psychology, public affairs, religion, and sociology.
 - Examine how an individual's place in society affects experiences, values, or choices.
 - Articulate and assess ethical views and their underlying premises.
 - Articulate ethical uses of data and other information resources to respond to problems and questions.
 - Identify and engage with local, national, or global trends or ideologies, and analyze their impact on individual or collective decision-making.

5. *Scientific World* – A course in this area must meet at least three of the following additional learning outcomes. A student will:
- Identify and apply the fundamental concepts and methods of a discipline or interdisciplinary field exploring the scientific world, including, but not limited to: computer science, history of science, life and physical sciences, linguistics, logic, mathematics, psychology, statistics, and technology related studies.
 - Demonstrate how tools of science, mathematics, technology, or formal analysis can be used to analyze problems and develop solutions.
 - Articulate and evaluate the empirical evidence supporting a scientific or formal theory.
 - Articulate and evaluate the impact of technologies and scientific discoveries on the contemporary world, such as issues of personal privacy, security, or ethical responsibilities.
 - Understand the scientific principles underlying matters of policy or public concern in which science plays a role.

II. College Option — 4 courses (12 credits). Transfer students may take fewer than 4 depending on their total transfer credits)

- Foreign Language – 2 courses (6 credits), may be waived under certain conditions, in which case students will choose from a list of alternate liberal arts courses. The learning objectives are those set forth by the Lehman Department of Languages and Literatures for the courses and levels elected by the student.
- Upper Division General Education – 2 courses (6 credits). Students must have achieved 60 credits and have declared a major; courses cannot be in same discipline as major)
 - *LEH351: Studies in Science and Applied Perspectives* – Upon completion of this course, the student is expected to be able:
 - To gather, interpret, and assess information from a variety of sources and points of view.
 - To evaluate evidence and arguments critically and be able to appraise their usefulness.
 - To produce well-reasoned written or oral arguments using evidence to support conclusions.
 - To demonstrate familiarity with the scientific method and quantitative reasoning.
 - To understand the scientific principles underlying matters of policy or public concern in which science plays a role.
 - To produce an essay or written piece of research, in “scaffolded” stages, demonstrating both an ability to express complex ideas for an educated audience as well as the ability to evaluate and utilize a variety of information which uses the scientific method.

- *LEH352: Studies in Literature* – Upon completion of this course, the student is expected to be able:
 - To gather, interpret, and assess information from a variety of sources and points of view.
 - To evaluate evidence and arguments critically and be able to appraise their usefulness.
 - To produce well-reasoned written or oral arguments using evidence to support conclusions.
 - To demonstrate familiarity with methods of literary criticism and historico-cultural analyses of literary studies.
 - To understand the role of literature and art in society and public policy or public concerns in which aesthetics play a role.
 - To produce an essay or written piece of research or other creative work, in “scaffolded” stages, demonstrating both an ability to express complex ideas for an educated audience as well as the ability to evaluate and utilize a variety of information of an aesthetic nature.

- *LEH353: Studies in the Arts* – Upon completion of this course, the student is expected to be able:
 - To gather, interpret, and assess information from a variety of sources and points of view.
 - To evaluate evidence and arguments critically and be able to appraise their usefulness.
 - To produce well-reasoned written or oral arguments using evidence to support conclusions.
 - To demonstrate familiarity with methods of artistic criticism and historico-cultural analysis analyses of works of art.
 - To understand the role of art in society and public policy or public concerns in which aesthetics play a role.
 - To produce an essay or written piece of research or other creative work, in “scaffolded” stages, demonstrating both an ability to express complex ideas for an educated audience as well as the ability to evaluate and utilize a variety of information of an aesthetic nature.

- *LEH354: Historical Studies* – Upon completion of this course, the student is expected to be able:
 - To gather, interpret, and assess information from a variety of sources and points of view.
 - To evaluate evidence and arguments critically and be able to appraise their usefulness.
 - To produce well-reasoned written or oral arguments using evidence to support conclusions.
 - To demonstrate familiarity with historical methods and historico-cultural analyses of documents and other artifacts.
 - To understand the historical principles underlying public policy or public concerns in which history plays a role.

- To produce an essay or written piece of research or other creative work, in “scaffolded” stages, demonstrating both an ability to express complex ideas for an educated audience as well as the ability to evaluate and utilize a variety of information of an historical nature.
- *LEH355: Studies in Philosophy, Theory, and Abstract Thinking* – Upon completion of this course, the student is expected to be able:
 - To gather, interpret, and assess information from a variety of sources and points of view.
 - To evaluate evidence and arguments critically and be able to appraise their usefulness.
 - To produce well-reasoned written or oral arguments using evidence to support conclusions.
 - To demonstrate familiarity with methods of theoretical or abstract analysis and philosophical reasoning.
 - To understand the role of theoretical and abstract reasoning in society and public policy or public concerns in which ethics or other aspects of philosophy play a role.
 - To produce an essay or written piece of research or other creative work, in “scaffolded” stages, demonstrating both an ability to express complex ideas for an educated audience as well as the ability to evaluate and utilize a variety of information of an abstract, theoretical or philosophical nature.

Appendix D

School of Education (SoE): Data-Based Activities, Changes, and Future Actions 2010 - 2012

Employer Survey – An employer survey was revised to provide SoE with richer information about the quality of our graduates and then made a concerted effort to get a higher response rate. Survey results are utilized to determine what changes need to be made in our preparation programs.

Disposition Assessment – In addition to a professionalism quiz taken prior to the beginning of student teaching, the SoE also now collects data on a disposition assessment that is completed by student teaching supervisors and cooperating teachers at the midpoint and at the end of student teaching. This instrument provides a way of gauging professional dispositions that determine whether or not candidates are good employees, colleagues, and role models.

Collection of Candidate Work Samples (CWS) – From each program, three candidate work samples are now collected (excellent, meets expectations, marginal performance). Programs choose the work sample to submit for inclusion in the Unit assessment system. These samples are collected annually and provide us with qualitative data on student learning outcomes.

Candidate Impact on Student Learning – A new key assessment was designed and implemented for completion during student teaching. Each candidate must demonstrate how his or her teaching has impacted students' learning. Candidates are required to submit a series of required artifacts (including the lesson plan, assessments, and a summary of how many students met each learning objective); in addition, the supervisor conducts a structured interview to determine whether or not candidates use assessment data to understand what students have learned and to figure out whether or not re-teaching is necessary.

Conceptual Framework Revisions – Based on candidate survey data, the Unit determined that there was a need to revise and update the Conceptual Framework. The School of Education's conceptual framework, known as LUTE, was revised in 2012. It expresses the School's commitment as leaders, practitioners, and partners, to concerted efforts to improve the lives of individuals, to engage in social issues, and to increase institutional possibilities. The entire conceptual framework is available on the School of Education's website – <http://lehman.cuny.edu/academics/education/>.

Strengthened Relationships with Community Colleges – Based on our analysis of teacher certification test data (disaggregated data for specific populations), the Unit recognized the need to strengthen relationships with community colleges. Seventy percent of our students are transfers, and much of the content on the certification tests comes from courses taken before candidates arrive at Lehman. Through a series of meetings with community college colleagues, SoE faculty have been able to share the content demands and to problem solve in a collaborative manner about how to prepare candidates for these tests.

Appendix E – CLA Results

1 Your School

Table 1 presents summary statistics for your school: numbers of freshmen tested, mean scores, mean score percentile ranks relative to other schools, 25th and 75th percentile scores, and standard deviations.

	Number of Freshmen	Mean Score	Percentile Rank*	25th Percentile Score	75th Percentile Score	Standard Deviation
Total CLA Score	98	1060	51	969	1151	156
Performance Task	52	1055	51	940	1132	171
Analytic Writing Task	46	1065	49	996	1155	139
Make-an-Argument	48	1074	56	989	1181	150
Critique-an-Argument	46	1051	45	901	1144	165
EAA**	100	974	27	895	1040	117

2 All CLA Schools

Table 2 presents statistics for all CLA schools.

	Number of Schools	Mean Score	25th Percentile Score	75th Percentile Score	Standard Deviation
Total CLA Score	161	1055	989	1115	89
Performance Task	161	1050	991	1113	97
Analytic Writing Task	161	1060	997	1117	86
Make-an-Argument	161	1059	1006	1114	88
Critique-an-Argument	161	1056	988	1112	89
EAA**	161	1039	964	1112	112

3 Student Sample Summary

Table 3 summarizes the student sample used to populate Tables 1 and 2. Percentages may not sum to 100% due to rounding.

	Your Freshman Sample Size	Your Freshman Percentage	Average Percentage Across Schools
Gender	Male	28	38
	Female	70	61
	Decline to State	0	0
Primary Language	English	60	84
	Other	38	16
Field of Study	Sciences and Engineering	19	24
	Social Sciences	8	12
	Humanities and Languages	8	10
	Business	14	11
	Helping / Services	28	25
	Undecided / Other / N/A	21	18
Race / Ethnicity	American Indian / Alaska Native	1	1
	Asian / Pacific Islander	12	9
	Black, Non-Hispanic	18	11
	Hispanic	52	16
	White, Non-Hispanic	4	55
	Other	11	4
	Decline to State	0	4
Parent Education	Less than High School	13	6
	High School	36	23
	Some College	25	23
	Bachelor's Degree	11	27
	Graduate or Professional Degree	13	21

* Refer to Section 8 of the Fall 2012 CLA Overview for the percentile rank lookup tables.

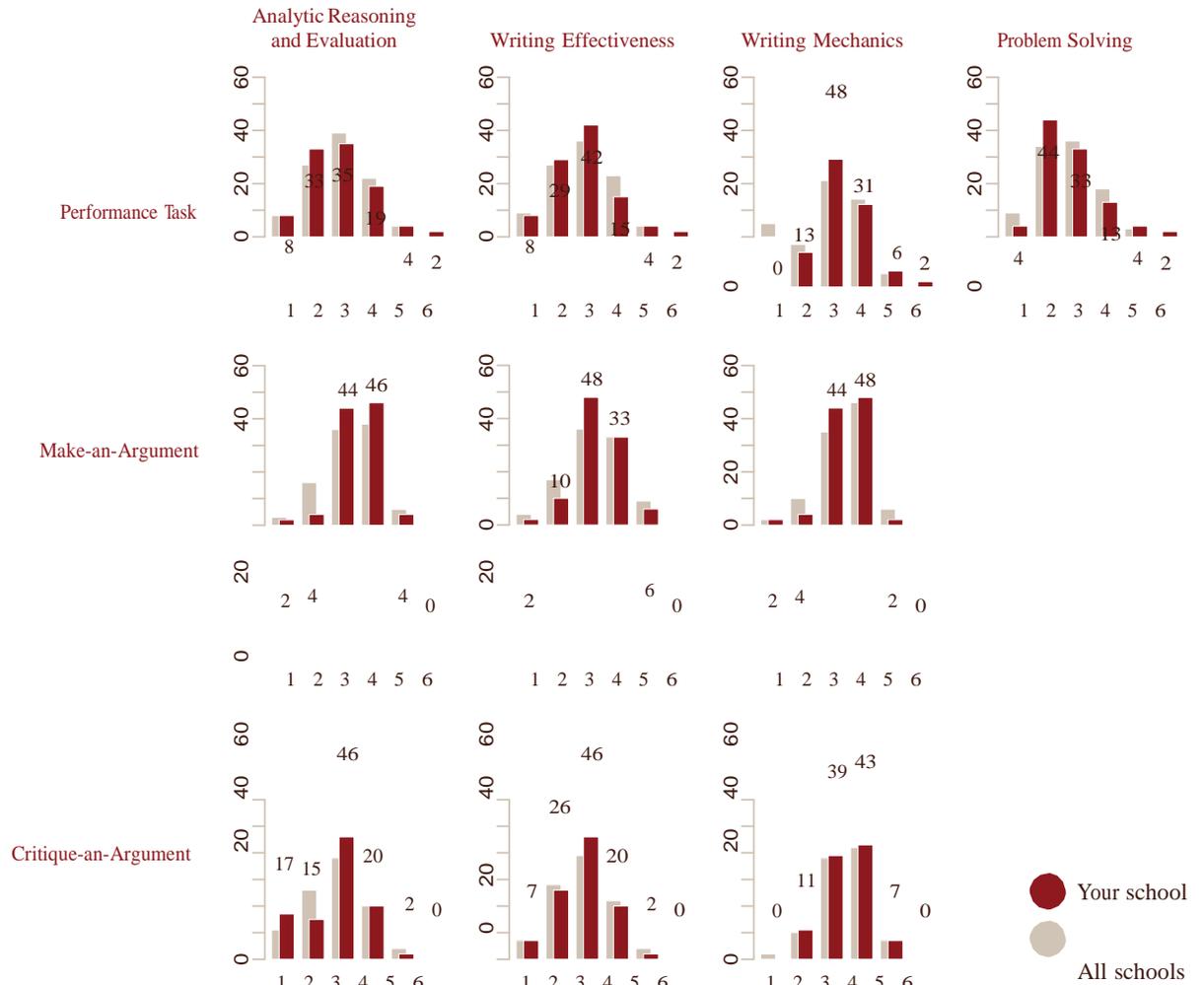
** Entering Academic Ability (EAA) represents SAT Math + Verbal, ACT Composite, or Scholastic Level Exam (SLE) scores reported on the SAT scale.

Appendix E – CLA Results

4

Distribution of Subscores

Figure 4 displays the distribution of your students' performance in the subscore categories of Analytic Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem Solving. The numbers on the graph correspond to the percentage of *your* students that performed at each score level. The distribution of subscores across *all* schools is presented for comparative purposes. The score levels range from 1 to 6. Note that the graphs presented are not directly comparable due to potential differences in difficulty among task types and among subscore categories. For example, it may be more difficult to obtain a high score in Writing Effectiveness on the Performance Task than it is on the Make-an-Argument. Within a task, it may be easier to obtain a high Writing Mechanics score than it is to obtain a high Analytic Reasoning and Evaluation score. See the *Diagnostic Guidance and Scoring Criteria* sections of the Fall 2012 CLA Overview for more details on the interpretation of subscore distributions.



5

Summary Subscore Statistics

Table 5 presents the mean and standard deviation for each of the subscores across CLA task types—for your school and all schools.

Appendix E – CLA Results

Performance Task	Analytic Reasoning and Evaluation		Writing Effectiveness		Writing Mechanics		Problem Solving		
	Your School	All Schools	Your School	All Schools	Your School	All Schools	Your School	All Schools	
	Mean	2.8	2.9	2.8	2.9	3.3	3.2	2.8	2.7
	Standard Deviation	1.1	0.9	1.0	0.9	0.9	0.9	1.0	0.8
Make-an-Argument	Mean	3.5	3.3	3.3	3.3	3.4	3.4		
	Standard Deviation	0.7	0.8	0.8	0.9	0.7	0.8		
Critique-an-Argument	Mean	2.7	2.8	2.8	2.9	3.5	3.4		
		1.0	0.9	0.9	.09	0.8	0.8		

Appendix F

Writing Council Timeline

Spring/Summer 2012

- Council formed

Fall 2012: Collecting Artifacts

- Writing Across Curriculum (WAC) reviewed writing intensive (WI) courses
- Sub-committee on Composition provided syllabi, assignments, and student writing samples

Spring/Summer 2013

- Review materials and findings of WAC and Sub-committee on composition
- Create recommendations and present to lead administrators
- Work with Departments to develop pilot course sections of WI and composition courses with standardized requirements

Fall 2013

- Launch pilot sections

Spring/Summer 2014

- Review results of pilot sections
- Revise and amend requirements for composition and WI courses as needed
- Works with deans, chairs, program directors, and faculty to implement newly revised requirements for composition courses and writing intensive requirements
- Develop mechanism for ongoing assessment of writing intensive courses

Appendix G

Results from 2006-07 Alumni Study – Academic Pursuits

Graduates responding to the 2006-07 Alumni Survey felt that their Lehman College education prepared them well for post-baccalaureate study. As indicated in G1, almost all respondents indicated that their Lehman education prepared them *Adequately, More than adequately* or *Exceptionally well* for graduate or professional school. No student felt that Lehman prepared them *Very poorly* or *Not at all*.

Table G1: How Well Did Your Lehman College Education Prepare You for Graduate or Professional School?

	N	%
Exceptionally well	9	24%
More than adequately	13	34%
Adequately	15	40%
Less than adequately	1	3%
Very poorly	0	0%
Not at all	0	0%

For graduates where a licensing or certification examination was applicable to their major, 79 percent indicated that they passed the first time they took it. As shown in Table G2 below, the vast majority felt that their undergraduate program prepared them well or adequately for their examination.

Table G2: How Well Do You Feel Your Undergraduate Education Prepared You For the Exam?

	N	%
Exceptionally well	3	19%
More than adequately	4	25%
Adequately	7	44%
Less than adequately	2	13%
Very poorly	0	0%
Not at all	0	0%

Results from 2006-07 Alumni Study – Career Pursuits

Graduates responding to the *2006-07 Alumni Survey* were asked about their current career pursuits and interests. One question asked graduates to indicate what they were currently doing. As shown in Table G3, the majority was employed full time and nearly a quarter were working while also continuing their education. Just seven percent indicated that they were currently seeking employment.

Table G3: Which of the Following Best Describes What You are Currently Doing?

Status	N	%
Employed full time	34	57%
Continuing my education and working	14	23%
Not employed, seeking employment	4	7%
Employed part time	3	5%
Continuing my education and not working	3	5%
Not employed, not seeking employment	1	2%
Other	1	2%

In addition to employment tenure, graduates employed in full time positions in 2012 were asked to indicate their current salary (as of summer 2012). As indicated in Chart G1 the median salary was approximately \$55,000, while the mean salary was well in excess of \$60,000 per annum. Several alums indicated that they were currently earning in excess of \$100,000 per year in their positions.

Chart G1: Income Distribution of 2006-07 Graduates Employed Full -time

