

**John Jay College of Criminal Justice
The City University of New York**

Report from the Committee on General Education Assessment

September 11, 2012

Table of Contents

Introduction: General Education Competence among John Jay Seniors 2

Competency 1: Written Communication 5

Competency 2: Oral Communication 10

Competency 3: Scientific Reasoning 13

Competency 4: Critical Thinking 18

Competency 5: Information Literacy and Technological Competence 21

Conclusions and Recommendations 28

Appendix A: AAC&U VALUE Rubrics

Appendix B: Sources of Data for Quasi-Direct Assessments

Appendix C: Chart: *Alignment of John Jay Mission Goals, Learning Outcomes
for Undergraduate Education, Pathways Learning Outcomes,
Middle States Competencies, AAC&U Value Rubrics,
and the John Jay College Gen Ed Option*

Prepared and submitted to Dean of Undergraduate Studies Anne Lopes
by the General Education Assessment Committee:

Professor Amy S. Green, chair
Professor Andrea Balis
Professor Ellen Sexton
Professor Andrew Sidman
Virginia Moreno, Director of Assessment

**John Jay College of Criminal Justice
The City University of New York**

Report from the Committee on General Education Assessment

This report assesses outcomes for John Jay's existing (i.e. outgoing) general education curriculum. A new, outcomes-based general education curriculum was developed and approved for implementation in May 2011, but that process was interrupted when CUNY announced a new, University-wide general education program. Pathways will to be implemented in fall 2013. The Pathways learning outcomes will form the basis of general education assessment at John Jay moving forward. In the meantime, assessment of general education at John Jay has mostly been conducted at the course level for such required classes as English composition, history, speech, math, science, and philosophy. This is the first comprehensive study of student learning in general education.

Members of the General Education Assessment Committee that prepared this report included Professors Amy Green (Communications and Theater Arts and Interdisciplinary Studies Program, Committee Chair), Andrea Balis (History and ISP), Professor Andrew Sidman (Political Science), and Ellen Sexton (Library) and John Jay's Director of Assessment, Virginia Moreno. Because there had been no systematic study of gen ed outcomes at the college before, the Committee decided to pilot a comprehensive study that would accomplish two goals. First, it would tell us about student achievement in general education under our existing program, which could be used a baseline for future assessments. Second, the pilot would enable us to make concrete recommendations for both general education curriculum and pedagogy and for ways to design a long-term comprehensive plan for gen ed assessment under the incoming general education program. We believe we have achieved both goals.

The report takes a broad approach to assess general education abilities across the curriculum by focusing on students outcomes at the capstone level. We recognize the limitations of this approach. Assessing the impact of general education on seniors and recent graduates means that our sample includes only the most successful students, those who stick with it long enough to take their capstone courses. This approach also fails to distinguish between achievements of "native" John Jay seniors, who have been here throughout their college careers, with transfer students, who have may have taken some or all of their general education requirements elsewhere.

The pilot study assessed student learning at the capstone level in six of the seven Middle States-recommended areas of general education competence: 1) written communication, 2) oral communication, 3) scientific reasoning, 4) critical analysis and reasoning, 5) technological competence, and 6) information literacy. Quantitative reasoning was assessed through the learning outcomes in mathematic courses (College Algebra to Calculus). Wherever possible, competency areas have been assessed using relevant AAC&U VALUE rubrics because they provide a reliable, national standard against which to measure our students' learning. Some of the competencies were assessed together using modified rubrics that combine criteria from more

than one of the original VALUE rubrics. The following competencies were assessed using these original or modified VALUE rubrics:

<i>Middle States Competency</i>	<i>AAC&U VALUE Rubric</i>
Written communication	Written Communication
Oral communication	Oral Communication
Scientific and quantitative reasoning	Inquiry and Analysis Problem Solving
Critical analysis and reasoning	Critical Thinking
Technological competence and information literacy	Information Literacy (there is no VALUE rubric for technological competence)

Descriptions of the criteria assessed within the instruments are included in separate sections on each competency.

To get a well-rounded snapshot of general education outcomes at the capstone level, we conducted three types of assessment: *Indirect*, based on extant data from institutional surveys, including the National Survey of Student Engagement (2010), the Faculty Survey of Student Engagement (2008-09), the 2011 CUNY Student Experience Survey, and the 2011 John Jay survey of graduates; *quasi-direct*, which drew data from capstone assessment reports from eleven majors; and *direct*, in which the members of the Committee applied the VALUE rubrics to a random sample of capstone papers (#30) from 13 majors.

Because the data sets were collected independently, the amount of data available for each item and the language, scales of achievement, common definitions and values vary widely, especially among the capstone assessment reports that were used for *quasi-direct* assessment. (Appendix B includes tables that indicate the sources of data for each rubric criterion.) While all the data was scored by ordinal scales, “Exceeding Expectations” for a given undergraduate program does not necessarily mean students are performing at the “Capstone” level according to the criteria established by the AAC&U. We therefore counsel caution in comparing the three sets of results.

In the most general terms, John Jay students are functioning at well below national norms across all five areas of competence studied, although they consistently and generously overestimate their proficiency when surveyed. Capstone papers scored at Milestone 1 on five out of five criteria in written communication; for scientific reasoning, they scored highest at Milestone 2 in one area out of seven, Milestone 1 in four areas, and at Benchmark in the remaining two. Out of five criteria for information literacy, the largest number of capstone papers scored at Milestone 1 for three, Benchmark for 1, and tied between Milestone 2 and Capstone for one (access and use information ethically and legally).

Not surprisingly, the majority of capstone students are at least moderately proficient in the basic academic skills: they can select a topic, identify and access sources, and manage the mechanics of writing. Their performance is weaker on more challenging tasks such as analyzing data, drawing conclusions, and putting their subject, ideas, and writing in context. Three of our five competencies - oral communication, critical thinking, and information literacy and technological

competence - emerged through our study as curricular and/or assessment stepchildren, with lots of lip service but little actual attention paid in the majority of capstone learning outcomes and assessments. Happily, selected majors seem to be producing highly competent students. Papers from capstone courses in the Political Science, Humanities and Justice Studies, English, Global History, and International Criminal Justice majors scored higher than others.

One thing we learned by studying multiple sources is that there appears at this point to be little consensus among the John Jay faculty on which general education outcomes are most important and what expectations for them should be. We recommend developing universal rubrics for general education assessment (perhaps based on the VALUE models) with common criteria, standards, scales and language to be used in every undergraduate department and program alongside the discipline-specific instruments appropriate to their majors and programs. What follows are the results of *indirect*, *quasi-direct*, and *direct* assessment of five broad areas of general education competence among John Jay College seniors and recent graduates.

Competency 1: Written Communication

Writing was assessed at the capstone level using indirect, quasi-direct, and direct measures of competence according to the five criteria on the VALUE Rubric for Written Communication. Under *Context of and Purpose for Writing*, papers were assessed for how well they demonstrated awareness of the surrounding circumstances, target audience, and intended effect on the audience. The *Content Development* criteria evaluated the papers on the extent to which they used compelling and relevant content to support significant exploration of the topic and ideas. *Genre and Disciplinary Conventions* looked at how the papers did or did not observe “formal and informal rules inherent in the expectations for writing in particular forms and/or academic fields,” while *Sources and Evidence* evaluated the appropriateness, reliability, and adequacy of source materials to support the ideas and intent of the paper. Grammar, language, and clarity of ideas were examined under *Control of Syntax and Mechanics*. Other criteria typical of writing assessment, such as thesis and argumentation, are assessed in the VALUE Rubrics for Critical Thinking and Scientific Reasoning.

1.a Indirect assessment of written communication

Indirect assessment of writing focused on student and faculty perceptions of the improvement in writing ability as a result of studying at John Jay. Overall, both students and faculty report significant improvement in writing, with scores ranging between 47 and 86%, with gaps between student and faculty reports. 86% of 2011 graduates report significant improvement in their ability to write clearly and effectively as a result of their studies, with 34% saying they have improved somewhat and 52% saying they have improved a lot. 66.5% of the seniors credit English 101 as a contributor to that improvement. However, consistent with the pattern Arum and Roska document among underprepared college students in *Academically Adrift: Limited Learning on College Campuses*¹, John Jay students evaluate their skills more highly faculty do. Faculty who teach seniors perceive that 59% have improved quite a bit or very much, a full 27 points lower than the seniors’ self evaluation. A possible indicator of the difference between student and faculty perceptions can be found when we look more closely at *Sources and Evidence* and *Content Development*. An overwhelming majority of seniors, (88%) report having integrated information from multiple sources in a paper, but only 43% claim to have prepared multiple drafts before submitting their work. The faculty assessment of revision is even lower, at 33%.

¹ Arum, Richard and Joseph Roska. *Academically Adrift*. University of Chicago Press (2011).

Indirect Assessment of Writing									
Table 1: Comparison of Student and Faculty Perceptions									
		Students (NSSE)				Faculty (FSSE)			
Content Development		Very Often	Often	Some-times	Never	Very Often	Often	Some-times	Never
Prepared 2 or more drafts of a paper or assignment before turning it in (NSSE Table 2; FSSE Table A4)									
	<i>Ist Year</i>	24%	36%	33%	7%	10%	20%	34%	36%
	Seniors	18%	25%	40%	7%	14%	19%	48%	18%
Sources and Evidence		Very Often	Often	Some-times	Never	Very Often	Often	Some-times	Never
Worked on a paper or project that required integrating ideas or information from various sources (NSSE Table 2; FSSE Table A4)									
	<i>Ist Year</i>	44%	45%	9%	2%	24%	34%	22%	20%
	Seniors	48%	40%	10%	2%	39%	38%	14%	9%
Control of Syntax and Mechanics		Very much	Quite a bit	Some	Very little	Very much	Quite a bit	Some	Very Little
Writing clearly and effectively (NSSE Table 9; FSSE Table A12)									
	<i>Ist Year</i>	44%	37%	16%	3%	15%	32%	47%	6%
	Seniors	42%	39%	16%	3%	19%	40%	36%	5%

Indirect Assessment of Writing				
Table 2: Items from 2011 CUNY Student Experience Survey and 2011 John Jay Survey of Graduates				
Survey item	Student Response			
	Improved a lot	Improved somewhat	Improved a little	Did not improve
How much has taking the following courses improved your ability to speak and /or write clearly and effectively? (CUNY Student Experience Survey Table 5)				
English 101 or SEEK-English	29.9	36.6	21.6	11.9
English 201 (used to be English 102)	30.2	39.9	19.2	10.6
How much did your ability to write clearly and effectively improve as a result of your studies at John Jay College? (John Jay Alumni Survey, Table 6)	52%	34%	9%	4%

1.b. Quasi-direct assessment of written communication

Quasi-direct data on writing in capstone and 400-level courses gives a more nuanced perspective, although the overall assessment of writing is strong. This data set is least consistent because of the wide variety in the ways that different majors do and do not include or assess writing in their learning outcomes. Table 3 shows that the largest number of capstone papers were assessed for *Content Development* (238 papers), with *Control of Syntax and Mechanics* seeing the next largest number (122), while far fewer attended to the other component skills. According to capstone reports, in three of the five writing criteria, the largest percentage of students meet

expectations” (*Content Development* 45%, *Sources and Evidence* 50.5%; and *Control of Syntax and Mechanics* 56%). Only in *Context of and Purpose for Writing* and *Genre and Disciplinary Conventions*, perhaps the most sophisticated criteria and the two least frequently assessed in capstone reports, do the largest percentage of students fall under “Approaches Expectations” (75% and 62% respectively). *Control of Syntax and Mechanics* is the writing skill most highly rated in our *quasi-direct* assessment, with 85% meeting (56%) or exceeding expectations (29%). Next in line are *Sources and Evidence*, with 69.5% meeting (50.5%) or exceeding (19%) expectations, and *Content Development*, in which 78.5% score at the two highest levels, with 45.5% meeting and 33% exceeding expectations.

Table 3: Quasi-Direct Assessment of Writing from Major Capstone Assessment Reports

<i>VALUE Item</i>	<i>Number of Papers</i>	<i>Exceeds Expectations</i>	<i>Meets Expectations</i>	<i>Approaches Expectations</i>	<i>Fails to meet Expectations</i>
Context of and Purpose for Writing	60	0	17.00%	75.00%	8.00%
Content Development	238	33.00%	45.50%	15.00%	5.50%
Genre and Disciplinary Conventions	74	00.00%	31.00%	62.00%	6.75%
Sources and Evidence	160	19.00%	50.50%	19.50%	8.00%
Control of Syntax and Mechanics	122	29.00%	56.00%	12.50%	2.50%

Note: Cells contain the percentage of all capstone papers assessed by the majors falling under each performance category. The first substantive column lists the number of capstone papers included in the meta-analysis for that particular VALUE item. As a cautionary note, papers were independently assessed by each major whose papers were included. There is, therefore, no guarantee that the criteria used to place each paper in a particular performance category are consistent across majors.

I.c. Direct assessment of written communication

The results of the Committee’s *direct* assessment of written communication, which is based on the national standards articulated for the five component skills on the VALUE Rubric for Written Communication, indicates a less robust level of achievement than in the *indirect* and *quasi-direct* studies. In all but one skill, *Sources and Evidence*, the largest percentage of capstone papers scored at Milestone 1, roughly equivalent to “Approaches Expectations” in the capstone reports, although, unlike the quasi-direct data, in which two categories had 0% in the top rank, our assessment found at least 13.33% or more placed in the Capstone level for every skill. *Control of Syntax and Mechanics* had its largest group, 43.33% in Milestone 2.

Overall, the direct assessment of written communication at the capstone level showed a wide range of student performance, with between 36.66% (in *Genre and Disciplinary Conventions*) and 59.99% (in *Control of Syntax and Mechanics*) scoring relatively highly in Milestone 2 and Capstone, despite the fact that most skills found the single largest percentage of students performing at only Milestone 1. The data suggest that achievement in writing is inconsistent among John Jay seniors, and scores for capstone papers in such liberal arts majors as Gender Studies, English, and Humanities and Justice Studies tended to be higher than for papers written in other majors. Although it is possible that the liberal arts majors attract students with better writing skills, it would be worth looking at whether and how these majors emphasize writing skills in their curricula and whether other majors can emulate the ways that they advance the writing skills introduced in general education.

<i>VALUE Item</i>	<i>Capstone</i>	<i>Milestone 2</i>	<i>Milestone 1</i>	<i>Benchmark</i>	<i>Below Benchmark</i>
Context of and Purpose for Writing	23.33%	16.66%	40.00%	20.00%	0.00%
Content Development	23.33%	33.33%	36.66%	6.66%	000%
Genre and Disciplinary Conventions	13.33%	23.33%	36.66%	10.00%	16.66%
Sources and Evidence	20.00%	23.33%	43.33%	10.00%	3.33%
Control of Syntax and Mechanics	16.66%	43.33%	33.33%	6.66%	0.00%

1.d. Conclusions and Recommendations

Despite a strong, shared belief among students and faculty that writing experiences at the College, especially English 101 and 201, are having a positive impact on skills, John Jay seniors are writing below national standards in every component criteria on the AAC&U VALUE Rubric for Written Communication. In four out of five categories, our students score at Milestone 1, two levels below capstone. Their greatest strength on this scale is in the mechanics of writing, where 60% of papers scored ranked at Milestone 2 or Capstone. When faculty rated the mechanics of writing using departmental scales and criteria in capstone assessment reports, a whopping 85% were judged to meet or exceed expectations.

If the most basic elements of writing competence, grammar and mechanics, are areas of relative strength for John Jay capstone students, their areas of greatest weakness are in establishing the *Context and Purpose for Writing* and using *Genre and Disciplinary Conventions* (although large numbers of student products were ranked low in these areas because they were not required by the capstone assignments). Student accomplishments in *Content Development* and using *Sources and Evidence* cluster at Milestone 1 and above on the national scale, and meets expectations and

above on local measures. Clearly, we face the challenge of whether and how to align local expectations with national norms.

We have two recommendations for improving and monitoring the development of student writing:

1. We recommend that a multidisciplinary team, including faculty from the English Department writing program, be charged with reconciling the bases on which we teach and assess writing competence across the curriculum. It will be interesting to see what results look like when we evaluate comparable sets of skills using the same criteria.
2. We recommend that a more deliberate hand-off of responsibility for writing development be articulated between the two required English composition courses and other areas of the curriculum, especially in upper-division courses that prepare students for capstone work in the major.

Competency 2: Oral Communication

One of the most striking discoveries of our pilot inquiry is the disjuncture between the emphasis placed on oral communication in the earliest stage of the general education curriculum, the limited data on student learning in the course, the absence or vagueness of references to oral communication skills in the majors and their capstone courses, and the absence of data at any level in relation to the criteria on the AAC&U VALUE Rubric for Oral Communication, which is designed to assess students presentations by *Organization, Language, Delivery, Supporting Material, and Central Message*. Because oral presentation is temporal and kinesthetic, and faculty are more used to evaluating student writing, professors may shy away from assessing oral communication as a distinct competency that is related to but not the same as written communication. Our pilot attempted to treat oral communication the same as the other major general education competencies under review, but the lack of appropriate data made *indirect, quasi-direct, and direct* assessment difficult.

A staple of John Jay's long-standing general education program is a mandatory 100-level public speaking course that requires students to attempt all of the items on the VALUE rubric, which is designed to evaluate student performance during presentations to a live audience. Departmental course assessment across sections, however, has relied on a common, multiple-choice final exam in which students identify the parts of a printed speech. The final does not include a practical component through which student-generated speaking activities could be evaluated. Aggregate scores on the final from Spring 2012 show that 67% of students earned an 80 or above, with an average score of 81.6%. These numbers indicate that students are able to recognize some of the VALUE Rubric components in a transcript of someone else's oral presentation, but it does not tell us how well students are able to execute those skills on their own. The Committee has been informed that the department of Communication and Theater Arts, which delivers the Speech 113 course, is developing a performance rubric to capture data on student performance in the future, although the course will be optional under the new gen ed.

The data is even fuzzier at the other end of the student spectrum. In capstone assessment reports, only five majors refer specifically to oral communication. Of those, four include it under the broader umbrella of communication skills, e.g. Information is clearly communicated and organized through written, oral, and quantitative charts"² Only one capstone report for the major in International Criminal Justice, pinpoints a specific oral communication skill: "Oral presentation comprehensively summarizes the project."³ There is simply not enough data to make a quasi-direct assessment of oral communication. In fact, it was difficult for the Committee to determine how many capstone projects require an oral presentation. We asked faculty in Spring 2012 capstone courses to fill out the VALUE Rubric for a sample of presentations made in their classes. We received only two reports, one of which had to be disqualified because the student work evaluated consisted in reading prepared papers out loud. Our *direct* assessment is, therefore, based on extremely limited data. Given those limitations, our assessment of oral communication is tentative at best.

² 2011 Public Administration Capstone Assessment Rubric.

³ 2011 International Criminal Justice Capstone Assessment Rubric.

2.a. Indirect assessment of oral communication

Indirect data from surveys of students and faculty is reminiscent of that for written communication. Students report overwhelmingly that their experience at John Jay contributed quite a bit or very much to their development at speaking clearly and effectively. 84% of first year students say so, with seniors close behind at 74%. Nearly 80% of attribute somewhat or a lot of the improvement to Speech 113. When we look at faculty perceptions, however, there is less agreement that John Jay has helped students in this area. 41% of faculty who teach first-year students believe that they have been helped quite a bit or very much (a full 52% say “some”); among faculty who teach seniors, however, that number rises to 62%. When we look at perceptions of how many opportunities students are given to practice oral communication skills, we see the demands ratchet up from first to senior year. 46% of first-year students say they have made presentations in class often or very often (which seems odd given that most freshmen are placed in Speech 113 their first semester), while 72% of seniors say that they have done so. Among faculty, only 26% teachers of freshmen say that their students have given in-class presentations, but 48% say their senior students do, a 24% decrease from student perceptions.

Table 5: Comparison of Student and Faculty Perceptions as Reported in NSSE and FSSE Surveys

Survey Item	Student Perceptions (NSSE 2008)				Faculty Perceptions (FSSE 2010)				
	Very much	Quite a bit	Some	Very little	Very much	Quite a bit	Some	Very little	
To what extent has John Jay contributed to your knowledge, skills, and development in: Speaking clearly and effectively? (NSSE Table 9; FSSE Table A12)	First Year	45%	39%	11%	4%	14%	27%	52%	7%
	Seniors	36%	38%	21%	5%	12%	50%	35%	4%
Working effectively with others? (NSSE Table 9; FSSE Table A12)	First Year	38%	33%	22%	8*	9%	30%	53%	9%
	Seniors	35%	33%	25%	7%	12%	38%	45%	5%
How often have you: Made a class presentation? (NSSE Table 2; FSSE Table A4)		<i>Very Often</i>	<i>Often</i>	<i>Sometimes</i>	<i>Never</i>	<i>Very Often</i>	<i>Often</i>	<i>Sometimes</i>	<i>Never</i>
	First Year	13%	33%	45%	8%	14%	12%	40%	35%
Seniors	40%	32%	26%	2%	25%	23%	30%	22%	
How often have you asked questions in class or contributed to class discussions? (NSSE Table 2; FSSE Table A4)	First Year	31%	34%	31%	5%	21%	33%	44%	2%
	Seniors	40%	32%	26%	2%	42%	39%	19%	0%

Table 6, Survey Items from the 2011 CUNY Student Experience Survey				
<i>Survey Item</i>	<i>Response</i>			
How has taking Speech 113/115 improved your ability to speak clearly and effectively?	<i>A lot</i> 40.4%	<i>Somewhat</i> 35.50%	<i>A little</i> 15.50%	<i>Did not</i> 8.80%

2.b. Direct assessment of oral communication

Direct assessment, based on a sample of twenty-two papers in the Political Science capstone course, indicates a high level of competence in all five criteria, with performance at the Capstone and Milestone 2 levels between 62% and 87%. The faculty member reports having spent considerable time preparing his students for their presentations and is to be applauded. It will be interesting to see what a larger sample will tell us in the future.

Table 7: Direct Assessment of Capstone Presentations using a Modified VALUE Rubric for Oral Communication					
VALUE Item	<i>Capstone</i>	<i>Milestone 2</i>	<i>Milestone 1</i>	<i>Benchmark</i>	<i>Below Benchmark</i>
Organization	27.00%	52.00%	21.00%	00.00%	00.00%
Language	21.00%	66.00%	14.00%	00.00%	00.00%
Delivery	28.00%	41.00%	31.00%	00.00%	00.00%
Supporting Material	21.00%	41.00%	28.00%	07.00%	00.00%
Central Message	17.00%	48.00%	28.00%	07.00%	00.00%

2.c. Conclusions and Recommendations

While there are indications that students are benefiting from oral communication training at John Jay, defining, developing, and assessing oral communication competence is an area in need of attention. With the phase out of Speech 113 as a required course, we might consider deploying the speech faculty to do professional development across the disciplines in this core gen ed competency.

Competency 3: Scientific Reasoning

We were able to identify more capstone evidence for scientific reasoning than any of the other five competencies in the study. Perhaps because the majority of majors at John Jay are in the social sciences, or because the items on the VALUE Rubric for scientific reasoning readily apply to a very wide range of academic activities, all eleven majors assessed their capstones for things like “Acknowledges and engages with counter-arguments and alternative hypotheses,” “Formulates an original thesis statement, research question or research problem,” and “Demonstrates a knowledge of the core literature and debates that make up the discipline.” The VALUE rubric contains seven items: *Topic Selection*, which addresses the creativity, focus, and manageability of the topic of the paper; *Existing Knowledge*, which refers to synthesizing information from multiple sources and representing a variety of views and approaches to the topic; *Design Process* evaluates the research plan, theoretical framework, and research methods employed; *Hypotheses* assesses the extent to which solutions, hypotheses, or arguments reflect comprehension of the problem or research question and contextual factors; *Analysis* looks at the organization and presentation of evidence; *Conclusions* refers to the extent to which conclusions are connected to the presentation of evidence; and *Limitations and Implications* assesses acknowledging the limitations of the research and applying conclusions to a larger context.

3.a. Indirect assessment of scientific reasoning

Indirect assessment of scientific reasoning reveals a lot of student participation in activities relevant to scientific reasoning (Table #). 73% of seniors and 77% of faculty say students often or very often worked on projects integrating ideas from various sources. 71% of seniors and 64% of faculty report students including diverse perspectives. 75% of seniors and 69% of faculty report that students have made judgments about the value of information, arguments, or methods quite a bit or very much. 78% of seniors and 65% of faculty report the same level of activity on applying theories to practical problems or in new situations. An astounding 84% of seniors and 78% of faculty report this level of activity for students analyzing the basic elements of an idea, experience, or theory. 73% of seniors and 69% of faculty report students synthesize and organize ideas, information, or experience into more complex interpretations quite a bit or very much. That said, there remain sizable and consistent differences in the opinions of faculty who teach students at different levels. On every item in Table 6, students overestimate the extent to which they have engaged in various activities compared to faculty estimates.

<i>Survey Items</i>	<i>Student Perceptions (NSSE)</i>				<i>Faculty Perceptions (FSSE)</i>			
	<i>Very Often</i>	<i>Often</i>	<i>Some-times</i>	<i>Never</i>	<i>Very Often</i>	<i>Often</i>	<i>Some-times</i>	<i>Never</i>
<u>Existing Knowledge</u>								
Worked on a paper or project that required integrating ideas or information from various sources (NSSE Table 2; FSSE Table A4)								
First-Year:	30%	36%	31%	4%	24%	34%	22%	20%
Seniors:	41%	32%	24%	3%	39%	38%	14%	9%
Included diverse perspectives in class discussions or writing assignments (NSSE	37%	39%	19%	5%	28%	27%	19%	25%

Table 2; FSSE Table A4)									
	First-Year:								
	Seniors:	35%	36%	24%	6%	36%	28%	21%	14%
Put together ideas or concepts from different courses when completing assignments or during class discussions (NSSE Table 2; FSSE Table A4)									
	First-Year:	23%	36%	36%	5%	3%	17%	63%	16%
	Seniors:	25%	40%	29%	6%	17%	30%	44%	9%
<u>Design Process</u>		<i>Very Much</i>	<i>Quite a Bit</i>	<i>Some</i>	<i>Very Little</i>	<i>Very Much</i>	<i>Quite a Bit</i>	<i>Some</i>	<i>Very Little</i>
Making judgments about the value of information, arguments, or methods (NSSE Table 3; FSSE Table A5)									
	First-Year:	40%	40%	15%	5%	17%	41%	37%	5%
	Seniors:	36%	39%	21%	5%	28%	41%	24%	8%
Applying theories or concepts to practical problems or in new situations (NSSE Table 3; FSSE Table A5)									
	First-Year:	41%	36%	18%	5%	22%	29%	39%	11%
	Seniors:	40%	38%	18%	4%	23%	42%	26%	9%
<u>Analysis</u>		<i>Very Much</i>	<i>Quite a Bit</i>	<i>Some</i>	<i>Very Little</i>	<i>Very Much</i>	<i>Quite a Bit</i>	<i>Some</i>	<i>Very Little</i>
Analyzing the basic elements of an idea, experience, or theory (NSSE Table 3; FSSE Table A5)									
	First-Year:	43%	40%	14%	2%	24%	48%	23%	5%
	Seniors:	44%	40%	15%	1%	29%	49%	18%	4%
Synthesizing and organizing ideas, information, or experiences into more complex interpretations (NSSE Table 3; FSSE Table A5)									
	First-Year:	36%	39%	21%	4%	20%	33%	40%	7%
	Seniors:	33%	40%	24%	4%	27%	42%	23%	8%
Note: Student perceptions are drawn from the National Survey of Student Engagement (2008-2009). Faculty perceptions are drawn from the Faculty Survey of Student Engagement (2010). Both surveys provide separate responses for self-identified first-year students (and faculty who teach first-year students) and seniors (and faculty who teach seniors). These distinctions are included in this table.									

In response to survey questions about how much specific general education courses contributed to their ability to use evidence to support arguments, students are consistent across the five groups of courses listed. Anywhere from 22% to 30% of students say these general education courses contributed a lot to this ability. 32% to 38% say these courses contributed somewhat to this ability. While a majority of students see the value of the general education program in this specific regard, there is also a large minority of students who said these courses improved their ability to use evidence to support arguments only a little or not at all (the response choice was “none”).

Table 9: Survey Items from the 2011 CUNY Student Experience Survey				
Survey Items	Response			
Hypotheses	Very Much	Some	A Little	Not At All
How much have courses outside of your major taught you to use information to develop new ideas of your own (Table 6)	50%	29%	11%	11%
Analysis	A Lot	Some-what	A Little	None
How much has taking the following courses improved your ability to use evidence to support an argument (Table 5)				
History 203, 204, or 205	22.0%	33.4%	21.4%	23.2%
History 231 or 232	21.8%	36.1%	19.8%	22.3%
Literature 230 or 231	25.7%	37.9%	20.2%	16.2%
Literature 232 or 233	25.8%	38.1%	22.2%	13.9%
Philosophy 231	29.6%	31.8%	19.5%	19.1%
Note: As indicated in the text, responses drawn from Table 5, which are listed in the second panel, are of particular interest because these courses are part of the General Education curriculum.				

3.b. Quasi-direct assessment of scientific reasoning

Quasi-direct data (Table 4) from departmental capstone assessment reports indicate that students perform best in selecting appropriate topics and demonstrating knowledge of the existing literature. On *Topic Selection*, 74.57% of students meet (49.16%) or exceed (25.41%) expectations. On *Existing Knowledge*, 72.18% meet (31.27%) or exceed (40.91%) expectations. Students also perform relatively well in creating their research plan and drawing appropriate conclusions. On *Design Process*, only 2.38% of students exceed expectations, but 63.38% meet expectations. The percentage scores for *Conclusions* are more evenly distributed with 29.42% exceeding expectations and 35.44% meeting expectations. Students generally underperform on the remaining VALUE items. On *Hypotheses* and *Analysis*, which are linked conceptually, only 34.1% and 39.37% of students at least meet expectations respectively. The results here suggest a degeneration of performance as papers move to the more technical aspects of research. Capstone reports indicate that students are able to select appropriate topics and discuss the relevant literature but that performance begins to decline when assessing the methodological or theoretical framework employed. It declines even further when assessing the proposed solutions or hypotheses drawn from the research plan and the organization and presentation of evidence testing those arguments. Performance is lowest with respect to students discussing the limitations and implications of their research. No students exceeded expectations here and only 22% met expectations. (It is important to note that these results are based only on 14 capstone projects from the Forensic Psychology program.)

VALUE Item	Number of Papers	Exceeds Expectations	Meets Expectations	Approached Expectations	Fails to Meet Expectations
Topic Selection	112	25.41%	49.16%	14.09%	11.33%
Existing Knowledge	181	40.91%	31.27%	18.31%	9.51%
Design Process	76	2.38%	63.38%	23.85%	10.39%
Hypotheses	74	9.65%	24.45%	49.89%	16.01%
Analysis	78	12.81%	26.56%	38.42%	22.21%
Conclusions	110	29.42%	35.44%	9.99%	25.15%
Limitations & Implications	14	0%	22%	57%	22%

3.c. Direct assessment of scientific reasoning

Table 10 presents the results of the direct assessment of scientific reasoning. With the exception of *Topic Selection*, students generally underperform on all aspects of scientific reasoning given the use of capstone papers to assess performance. Students perform well on *Topic Selection*; they are able to identify focused and manageable topics and narrow in on relevant aspects of them. There is a significant performance gap, however, between the selection of an appropriate topic and carrying out the research. Where 70% of student papers were scored at least at the 3rd milestone on *Topic Selection*, roughly 73% of student papers were scored below this level on the next five VALUE items. No paper scored above at or above this level on *Limitations and Implications*. On discussing the relevant literature (*Existing Knowledge*), creating a research plan (*Design Process*), organizing evidence to reveal important patterns (*Analysis*), and drawing conclusions from their findings (*Conclusions*), the median level of performance is the 2nd Milestone, one step above Benchmark or introductory. For *Hypotheses and Limitations*, the median level of performance was the Benchmark. These results strongly suggest that, although students and faculty report a lot of activity in the area of scientific reasoning, John Jay students are not performing at the national capstone level; many are not even performing at Milestone 2.

<i>VALUE Item</i>	<i>Capstone</i>	<i>Milestone 2</i>	<i>Milestone 1</i>	<i>Benchmark</i>	<i>Below Benchmark</i>
Topic Selection	20.00%	50.00%	10.00%	20.00%	0.00%
Existing Knowledge	10.00%	13.33%	43.33%	26.67%	6.67%
Design Process	10.00%	26.67%	33.33%	23.33%	6.67%
Hypotheses	6.67%	20.00%	16.67%	36.67%	20.00%
Analysis	3.33%	20.00%	36.67%	26.67%	13.33%
Conclusions	3.33%	20.00%	46.67%	20.00%	10.00%
Limitations & Implications	0.00%	0.00%	13.33%	50.00%	36.67%
<small>Note: As indicated in the text of the report, direct assessment was performed by applying the VALUE rubric for <i>Inquiry & Analysis</i>, combining with it one item (Proposing Solutions/Hypotheses) from the VALUE rubric for Problem Solving, to 30 randomly selected papers written for senior capstone courses in various majors. Cells contain the percentage of papers in each performance level of the rubric.</small>					

3.d Conclusions and Recommendations

Comparison of indirect, quasi-direct and direct assessments of scientific reasoning shows that John Jay seniors do not meet the capstone standards expected by the AAC&U criteria. In fact, direct assessment of capstone papers suggests that capstone assignments in many majors do not demand capstone level activities. Comparing the criteria for what capstone faculty considered to Exceed Expectations with what the VALUE rubric demands at the capstone level suggests that our undergraduate programs have lower than national expectations. This may explain why the quasi-direct data appear to “overestimate” student performance compared to scores resulting from *direct* application of the VALUE rubric.

Adjusting for different definitions of designations on the local and national rubrics, direct and quasi-direct assessments provide a consistent picture of student performance on *Topic Selection*, *Hypotheses*, and *Analysis*. Both assessments indicate that students select appropriate, manageable topics. Both sets of results indicate that students underperform on the technical aspects of conducting research and have difficulty proposing testable hypotheses reflective of the context in which their research is conducted. Underperformance here appears to lead to underperformance on the presentation of evidence related to their hypotheses. In other words, poorly constructed arguments lend themselves to difficulties in supporting those arguments. Both sets of results also indicate poor student performance on *Limitations*, although, as noted, quasi-direct assessment of this item included only 14 projects from one program. Underperformance according to the direct assessment using the VALUE rubric can thus be attributed to the difference between national standards and expectations for students at capstone level and the norms for John Jay seniors.

Competency Four: Critical Thinking

Once we began our pilot inquiry, it quickly became apparent that there was very little agreement across the College as to what actually constituted critical thinking. According to the VALUE Rubric, students' abilities to think critically can be evaluated by the extent to which they *Explain Issues*, select and use *Evidence*, consider the *Influence of Context and Assumptions*, articulate their own *Position*, and draw *Conclusions and Related Outcomes*.

4.a. Indirect assessment of critical thinking

As with all of the other competencies included in this study, student and faculty perceptions about how much critical thinking is going on in John Jay classrooms, although the differences are somewhat reversed, with faculty reporting more activity than students in analyzing ideas and synthesizing information. The typical pattern returns when students and faculty are asked how often students were required to make judgments during the current school year. There, 40% of first year and 33% of senior students say they made judgments very often, but only 17% of teachers of freshmen and 28% of teachers of seniors report that they did so very often. Responses are consonant for student and faculty indications that they made judgments often (38% of first year students vs. 41% of their professors; 30% of seniors vs. 41% of their faculty). Overall, both students and faculty report a lot of activity in areas relating to critical thinking with, as to be expected, more at the senior than the freshman levels.

Table #: Comparison of Student and Faculty Perceptions of Critical Thinking as Reported in NSSE and FSSE Surveys									
Survey Item	Student Perceptions (NSSE 2008)				Faculty Perceptions (FSSE 2010)				
	Very much	Quite a bit	Some	Very little	Very much	Quite a bit	Some	Very little	
Explanation of Issues During the current school year, how much of your coursework emphasized analyzing the basic elements of an idea, experience or theory?	First year	25%	34%	32%	3%	24%	48%	23%	5%
	Seniors	25%	37%	30%	8%	29%	49%	18%	4%
Evidence During the current school year, how much of your coursework emphasized synthesizing and organizing information? NSSE, 2008	First Year	33%	40%	22%	5%	24%	48%	23%	5%
	Seniors	30%	42%	25%	4%	29%	49%	18%	4%
		Very	Often	Sometimes	Never	Very	Often	Sometimes	Never
Influence of Context and Assumptions Making judgments about the value of information, arguments, or methods.	First Year	40%	38%	17%	6%				

Seniors	33%	40%	22%	5%	
					17%
					41%
					37%
					5%
					28%
					41%
					24%
					8%

4.b. Quasi-direct assessment of critical thinking

A review of departmental learning outcomes and assessment plans demonstrates these differences in expectations. Very few departments identify critical thinking skills as learning outcomes. Several departments did assess for “reasoning” but it is difficult to determine precisely how to apply the Value Rubric to departmental expectations. Departments were not asked to correlate their learning outcomes to the Value Rubric, so they appropriately designed their outcomes around what they believed their students need to have.

Most departments did have discipline specific learning outcomes and expectations outcomes for critical thinking which were identified as part of the Capstone Experience. . Some expected students to use major resources in the field, to make critical assessments of very specific kinds of research designs etc. These were clearly designed to assess the critical thinking skills each department or discipline privileges. The critical thinking skills emphasized at the 300 and 400 level in particular were primarily scaffolded to provide students with the specific skills they would need to succeed in their capstone. These learning Outcomes were not designed to assess broader definitions of crucial thinking or the General Education standards that the Value Rubrics were designed to assess.

This divergence made it difficult to make comparisons or draw conclusions about the level of critical thinking among our students.

4.c. Direct assessment of critical thinking

Direct application of the VALUE rubric for critical thinking was intended to provide a consistent basis for scoring and comparison of student work. However it was immediately clear that for all of the reasons discussed above this was in many ways an inappropriate standard. When departments designed their learning outcomes they were looking at what their students should

look like when they graduated and then mapped those outcomes to their departmental curriculum. Mapping to College Wide learning outcomes, or Gen Ed outcomes is quite different. Some departments have begun to assess for critical thinking skills although most do not specific what they are. In general these departmental assessments were higher than an assessment based on the Value Rubric. Most felt their students were generally meeting the expectations of the department or major so the differences may well lie in the quite different rubrics used for assessment.

The following figures are based on direct assessment of 30 Capstone Papers randomly selected from a pool drawn from several different departments, based on the AAC&U Value Rubric for Critical Thinking.

Table #, Direct Assessment of Critical Thinking (N=30)					
<i>VALUE Item</i>	<i>Capstone</i>	<i>Milestone 2</i>	<i>Milestone 1</i>	<i>Benchmark</i>	<i>Below Benchmark</i>
Explanation of issues	13.3%	33.3%	33.3%	16.6%	3.3%
Evidence	13.3%	23.3%	30%	33.3%	0%
Influence of context and assumptions	6.6%	23.3%	20%	16.6%	0%
Student's position	3.3%	16.6%	33.3%	16.6%	3.3%
Conclusions and related outcomes	3.3%	13.3%	30%	16.6%	3.3%

4.d Conclusions and Recommendations

Some departments have begun to assess for critical thinking skills although most do not specific what they are. In general these departmental assessments were higher than an assessment based on the Value Rubric. Most felt their students were generally meeting the expectations of the department or major so the differences may well lie in the quite different rubrics used for assessment. Despite the difficulties in matching rubrics, there one constant, namely differences between student assessment and faculty assessment. The Justice and Humanities program did an exit survey of their students, matching the results from the students in specific classes with the surveys of their faculty. As an example, in one course when asked about the ability to formulate a thesis the faculty felt 5% of their students exceeded expectations and 25% met them,. The students however felt these figures to be 40% and 48% respectively.

Competency 5: Information Literacy and Technological Competence

Middle States competencies for general education include both information literacy and technological competence. There is no VALUE Rubric for the latter, but the committee was able to gather some indirect and quasi-direct indicators of technological competence from survey data and capstone assessment reports. We were to make direct assessment of information literacy by applying the AAC&U VALUE Rubric for Information Literacy to the core sample of capstone papers. The five criteria on that rubric include: *Determine the Extent of Information Needed*, *Access the Needed Information*, *Evaluate information and its sources critically* (which entails questioning assumptions and analyzing context for information), *Use Information Effectively to Accomplish a Specific Purpose* and *Access and Use Information Ethically and Legally* (which includes what John Jay calls academic integrity).

5.1. Technological Competence

5.1.a. Indirect Assessment of Technological Competence

Most of the students and faculty who responded to surveys distributed by email agreed that the college emphasizes using computers in academic work and has contributed to their knowledge and skills in information technology “quite a bit” or “very much”. (Exploring John Jay student experience data bachelor degree students 2009-10, figure 4). As faculty are spending little class time on student computer use (2010 Faculty survey of student engagement, Table A3.) it’s not clear where or how students are picking up computer, information and communication technology (ICT) skills. Some formal instruction is occurring, as 17-21% of faculty report that they spend between 1 and 9 % of class time on student computer use. But 60 % of faculty teaching first years and 62 % of faculty teaching seniors never spend classroom time on student computer use.

General IT skills, such as word processing, using presentation software such as PowerPoint, spreadsheets, creating & manipulating multimedia objects, using Web 2.0 technologies, etc. appear to be neither specifically taught, nor assessed, in any single required General Education course. The ITSS Department provides in-class instruction at the request of the professor, walk-in tech assistance, short not-for-credit courses, and a range of regularly scheduled workshops and demonstrations, however, 55% of students surveyed reported that they would rather view instruction sessions online than attend on-site workshops (table 18, 2011 John Jay Student Experience Survey).

If we look at student use of information technology, we find that 66% of first-year students and 73% of seniors say that they have used email often or very often to communicate with an instructor. Interestingly, the faculty reporting is higher; 73% believe first-year students use email to communicate with their instructors; 85% say seniors do. (Perhaps faculty inboxes seem more crowded than they are.) The frequencies for using an electronic medium to discuss or complete an assignment are somewhat lower: 44% of first-years responded with often or very often, with a larger percentage, 56% reporting that they have not. The numbers for seniors are almost identical: 46% of seniors responded often or very often, with a larger percentage, 57% reporting that they have not. These numbers are at odds with reports that the college emphasizes

using computers in academic work. 80% of freshman and seniors say it does quite a bit or very much. It appears that students use everyday technologies (email, word processing) frequently but more advanced applications less so.

CUNY and John Jay survey questions might yield more positive data if phrased differently. The surveys we consulted did not ask whether faculty spent classroom time demonstrating ICT use. All the classrooms are now equipped with e-podiums, internet connection and overhead projectors. It is very easy for a faculty member to turn on the equipment and take a few minutes to demonstrate a web site of interest or a library database. The surveys also did not ask about Blackboard use. Had the question about “using an electronic medium” in the FSSE & NSSE included the term “Blackboard”, the percentages reporting use might have been greater.

Table #, Indirect Assessment of Technological Competence								
<i>Survey Item</i>	<i>Student Perceptions (NSSE2008)</i>				<i>Faculty Perceptions (FSSE 2010)</i>			
	<i>Very much</i>	<i>Quite a bit</i>	<i>Some</i>	<i>Very little</i>	<i>Very much</i>	<i>Quite a bit</i>	<i>Some</i>	<i>Very little</i>
<i>To what extent has John Jay contributed to your knowledge, skills, and development in:</i>								
Using computing and information technology: (NSSE Table 9, FSSE Table A12)								
First-year	39%	30%	19%	12%	19%	44%	34%	3%
Seniors	36%	35%	22%	6%	27%	34%	33%	6%
Using computers in academic work (NSSE Table 8, FSSE Table B8)								
First-year	50%	30%	13%	8%	61%*			
Seniors	47%	33%	17%	3%	63%*			
<i>How often have you:</i>	<i>Very Often</i>	<i>Often</i>	<i>Sometimes</i>	<i>Never</i>	<i>Very Often</i>	<i>Often</i>	<i>Sometimes</i>	<i>Never</i>
Used e-mail to communicate with an instructor: (NSSE Table 2, FSSE Table A4)								
First-year	34%	32%	28%	6%	73%*			
Seniors	38%	35%	25%	1%	85%*			
Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment : (NSSE Table 2, FSSE Table B2)								
First-year	24%	20%	34%	22%	46%*			
Seniors	24%	22%	33%	22%	42%*			
On average, what percent of class time do you spend on student computer use? (FSSE 2010 Table A3)	<i>Faculty Perceptions Only</i>							
	75% +	50-74%	40-49%	30-39%	20-29%	10-19%	1-9%	0%
First-Year	2%	1%	0%	2%	3%	8%	21%	62%
Seniors	5%	2%	3%	1%	3%	7%	17%	60%

5.1b. *Quasi-direct assessment of Technological Competence*

We were able to extract some *quasi-direct* evidence for technological competence from some capstone assessment reports. There appear to be implicit expectations that capstone students are able to use common software applications to word process a paper and make presentations. Effective communication skills are typically included in program goals, e.g. ICJ major learning objective number 5, “*Students will develop written and oral communication skills to elaborate informed opinions....*”; Public Administration major learning objective has “*organize and communicate information clearly to a variety of audiences by means of oral presentation, written documents and reports, and quantitative graphs, charts and tables*”; Economics has an almost identically worded goal “*communicate effectively to a variety of audiences by means of oral presentation, written documents, and quantitative graphs, charts and tables*”. It may be implicitly understood that fulfilling these learning objectives adequately would be impossible without appropriate ICT use. Major assessment plans include a closer look at technological competence in the future. The BS in Economics plan includes a graduating student knowledge survey, which will ask students to indicate their understanding of a topic on a scale between understood poorly and understood very well. Survey items will include “*Accessing information on-line*” and “*Use of Excel and quantitative functions.*” The Forensic Psychology major plans to assess “*information and technology literacy*” in year 3 (2012-2013) of their assessment cycle.

5.2. Information Literacy

5.2.a. *Indirect Assessment of Information Literacy*

Indirect assessment of information literacy indicates that the majority of students responding believe that they are being taught how to evaluate information, and believe that their abilities to do so have improved as a result of course-work. The NSSE survey asked students their impressions of whether courses improved their ability to use evidence to support an argument – the majority said they had “improved a lot or improved somewhat.” Courses outside their major (gen ed or electives) had encouraged 78% of students to learn about a topic before making a decision and to use information to develop new ideas. As with the other competencies assessed in this study, students say they work more often on projects requiring integrating information from various sources than faculty think they do. Similar discrepancies in student and faculty perceptions are seen in the responses to other questions. 61 % of first year students, but only 20 % of their teachers, responded “often or very often” to the question, “how often students have brought together ideas or concepts from different courses into assignments or discussions.” The student-faculty perception discrepancy narrows to 20% for seniors, indicating that perhaps students had become more sophisticated in recognizing their information use.

**Table #, Comparison of Student and Faculty Perceptions of Information Literacy
as Reported in NSSE and FSSE Surveys**

	<i>Very much</i>	<i>Quite a bit</i>	<i>Some</i>	<i>Very little</i>	<i>Very much</i>	<i>Quite a bit</i>	<i>Some</i>	<i>Very little</i>	
<i>During the current school year, how much has your coursework emphasized :</i> synthesizing and organizing ideas, information, or experiences into more complex interpretations. (NSSE Table 3, FSSE Table A5)	First Year	33%	40%	22%	5%	20%	33%	40%	7%
	Seniors	30%	42%	25%	4%	27%	42%	23%	8%
making judgments about the value of information, arguments, or methods. (NSSE Table 3, FSSE Table	First Year	40%	38%	17%	6%	17%	41%	37%	5%
	Seniors	33%	40%	22%	5%	28%	41%	24%	8%
<i>How often have you:</i> put together ideas or concepts from different courses when completing assignments or during class discussions? (NSSE Table 2; FSSE Table A4)	First Year	23%	34%	37%	6%	20%			
	Seniors	25%	40%	30%	5%	47%			
worked on a paper or project that required integrating ideas or information from various sources? (NSSE Table 2; FSSE Table A4)	First Year	44%	45%	9%	2%	58%			
	Seniors	48%	40%	10%	2%	77%			

Table #, 2011 John Jay Student Experience Survey of Graduates

Survey Item	Response			
	A lot	Somewhat	A little	Did not
<i>How much has taking the following courses improved your ability to use evidence to support an argument?(Table 5)</i>				
History 203, 204, or 205	22.0%	33.4%	21.4%	23.2%
History 231 or 232	21.8 %	36.1%	19.8%	22.3%
Literature 230 or Literature 231	25.7%	37.9%	20.2%	16.2%
Literature 232 or 233	25.8 %	38.1%	22.2%	13.9%
Philosophy 231	29.6 %	31.8%	19.5%	19.1%
<i>How much have courses outside of your major:(Table 6)</i>	<i>Very much</i>	<i>Some</i>	<i>A little</i>	<i>Not at all</i>
Encouraged you to learn about a topic before making a decision?	47.7%	30.3%	13.1%	8.9%
Taught you to find and evaluate information	45.7%	33.6%	10.7%	10.1%
Taught you to use information to develop new ideas of your own	49.9%	28.8%	10.6%	10.6%

5.2.b. Quasi-direct assessment of Information Literacy

Major capstone reports were again the source of our data for *quasi-direct* assessment of information literacy. Here again, faculty expectations seemed to vary widely from program to program as did the granularity of their assessment instruments. Assignments varied from an in-class exam to a thesis or mini-thesis requiring students to integrate and evaluate primary and secondary sources. Not all of the assignments provided an opportunity for students to demonstrate their information literacy skills. The capstone assessment reports expressed widely varying expectations, in terms of both learning objectives and what was actually assessed. Some programs have learning goals that closely correspond to the VALUE rubric item “*Use information effectively to accomplish a specific purpose,*” but do not appear to have directly assessed the goal. Such wide disparity in demands, expectations, and standards make it very difficult to determine the accuracy of the aggregate scores reported here.

Students performed best on the *Access the needed information*. Based on data from 74 papers, 77% of students met or exceeded expectations. Most students reached or exceeded expectations for *Use information to accomplish a purpose* (38% and 25.3% respectively), but 10.3% failed to meet expectations, based on 174 papers. Most students reached or exceeded expectations for *Access & use information ethically & legally* (31.3% and 28.8% respectively), with just over a third approaching expectations (33.1), based on 284 papers. Some programs/majors have a rubric item for compliance with MLA or APA style conventions. Others included citation skills in the broader category of “effective writing.” Generally, the data points to students being competent in citing sources. About half of students met or reached expectations for *Evaluate information and its sources critically* (25% and 24.8 % respectively), 31.3% approached expectations and 18.9% failed to meet expectations, based on 197 papers.

The poorest performances were recorded for students' ability to *Determine the extent of information needed*, but that was based on a very small sample size of only twelve papers, all from Humanities and Justice Studies because theirs was the only rubric to directly address this ability. Other majors refer to the ability to assess what information was needed, but do not include it in their assessment rubrics. In what we hope predicts other good outcomes, HJS reported that most students' theses met or exceeded their IL objectives.

Table #: Quasi-Direct Assessment of Information Literacy from Major Capstone Assessment Reports					
VALUE Item	Number of Papers	Exceeds Expectations	Meets Expectations	Approaches Expectations	Fails to meet Expectations
Determine the Extent of Information Needed	12	5.00%	25.0%	45.0%	25.0%
Access the needed information	74	56.7%	20.3%	12.2%	11.8%
Evaluate information and its sources critically	197	25.0%	24.8%	31.3%	18.9%
Use Information Effectively to Accomplish a Specific Purpose	174	25.3%	38.0%	26.9%	8.0%
Access and Use Information Ethically & Legally	284	28.8%	31.3%	33.1%	6.3%

5.2.c. Direct assessment of Information Literacy

Our *direct* assessment found that, compared to the learning outcomes and rubric items used by John Jay majors, the VALUE Rubric for Information Literacy takes a more granular measure of student performance. This may explain why the direct assessment scores are much lower than those in the quasi-direct assessment, which relies on faculty-driven and reported data. The overwhelming majority of the student work assessed for information literacy competencies did not show evidence of students' ability to perform at the capstone level as defined by the VALUE rubric. Ethical and legal use of information received the highest scores, with fully two-thirds (66.6%) of student work recognized to be at the Milestone 2 or Capstone level. Next best was the *Access the needed information* item, with 47% of students performing at Capstone or Milestone 2.

But the majority of students performed at the lower milestone or benchmark level for three of the five items: *Determine the extent of information needed*, *Access the needed information*, & *Use information to accomplish a purpose*. The rubric's "*Access the needed information*" item was hard to assess from the evidence at hand, but an attempt to do so was made by looking at the citations recorded and judging what tools would have been necessary to find them, E.g. did the student just Google? Or would the student have had to use bibliographic tools such as the library catalog and bibliographic indexes to find the works cited? Weakest performance was identified for *Evaluating information and its sources critically*. Only 3.3% of the papers scored at the capstone level; 66% scored at benchmark level or lower. Clearly, this is the most challenging item for a large majority of our capstone students.

Again, because there was variety in the types of capstone assignments, it is hard to make a fair comparison of students' information literacy abilities across the majors. We saw some examples of traditional-style term papers incorporating a literature review and bibliography, but we also encountered other types of assignment, such as the one that required students to summarize and annotate a single article, which did not give students an opportunity to demonstrate their ability to identify, find, and integrate information from multiple sources. We saw a wide range of student abilities. There were occasional wonderful papers, but many disappointed in terms of demonstrating students' abilities to find and use appropriate academic literature. There was a disappointing lack of demonstrated use of the Library's extensive academic information resources.

Table #: Direct Assessment of Information Literacy					
	Capstone	Milestone 2	Milestone 1	Benchmark	Below Benchmark
Determine the Extent of Information Needed	13.30%	26.70%	50.00%	10.00%	00.00%
Access the Needed Information	23.30%	23.30%	26.70%	10.00 %	16.70%
Evaluate information and its sources critically	13.30%	33.30%	50.00%	3.30%	00.00%
Use Information Effectively to Accomplish a Specific Purpose	3.30%	10.00%	20.00%	60.00%	6.70%
Access and Use Information Ethically and Legally	33.30%	33.30%	16.70%	13.30%	3.30%

5.3. Conclusions and recommendations

As with the other competencies included in our study, the data on student learning in information literacy and technological competence are patchwork at best, and there are not consistent demands, expectations, or standards for these competencies across majors at the capstone level. Any direct assessments appear to be carried out as an intrinsic and inseparable part of other learning outcomes. This makes it very difficult to draw reliable conclusions about student performance. We do see, however, that for four of the five items on the VALUE rubric for information literacy, John Jay students are performing well below national standards.

Moving forward, we recommend the same kind of campus-wide consensus-building and rubric development for these abilities as for the other four competencies in this study. This will encourage faculty across departments to identify and include course-appropriate information literacy and technology tasks in their assignments and monitor and facilitate growth in their students' competence.

Conclusions and Recommendations

Simply put, in virtually all of the competencies Middle States considers essential to successful general education, John Jay students are not performing up to national expectations, and faculty expectations do not seem to be in alignment with them either, as evidenced by the differential between faculty assessments and the Committee's direct assessment using AAC&U Value Rubrics. While there is still considerable and well-justified resistance among the faculty to the imposition of the CUNY Pathways general education program, the new program may have a positive impact on some of these disappointing results. There is an emphasis on academic skill-building across the new curriculum. Students will be required to practice gathering, analyzing, and communicating information throughout the flexible core, differentiate multiple perspectives on the same subject in both the flexible core and the John Jay option; and express oneself clearly in the English Composition and Communication requirements. We are less sanguine about the prospects for quantitative reasoning at John Jay, the one Middle States competency we did not have enough data to assess at the capstone level. The new curriculum decreased the College's math requirement from six to three credits. We hope that John Jay will find a way to compensate for the loss of math credits by infusing quantitative reasoning elsewhere across the curriculum.

Recommendations

The Committee has three sets of recommendations: curricular, assessment process, and assessment planning.

Curricular recommendations:

The three most important things the College should do in order to improve general education outcomes are to:

1. Build awareness and consensus across the college as to standards and expectations for the key general education competencies assessed in this report. As to be expected, faculty in different disciplines have different curricular priorities, but there should be a limited set of common academic goals for communication, reasoning, critical thinking, and information literacy that transcend disciplinary interests. We should also share rough definitions and language to describe what comprises good writing or effective speaking or how to draw meaningful conclusions from available data to make reinforcing these skills more consistent. Once we agree on which goals to pursue and target levels of accomplishment, we can establish developmental expectations and milestones so that both students and faculty understand what they should be capable of doing as they move through the curriculum.

These common goals and standards should be clearly communicated to all college constituencies so that students know what the faculty expect from them and that faculty expectations are consistent and self-reinforcing as students advance to higher-level course work. The Learning Outcomes for Undergraduate Education that the College adopted as part of its internal general education reform process (May 2009) articulate several across-the-board academic goals, but they seem to have been drowned out in the wake of Pathways. Fortunately, we don't have to start from scratch. We might draw on the John

Jay outcomes or the ones in Pathways, or some combination of the two, or we might elect to use the VALUE rubrics to set the common denominators, as we did in this study.

2. Create more intentional articulations between general education and the majors so that the key competencies continue to be developed and assessed in upper-division coursework leading up to and including the capstone project. We do not expect the English major to include a program outcome for quantitative reasoning, but it does seem reasonable (and in fact is currently the practice in some majors) to expect all the disciplines to expect their students to be highly skilled in communication, reasoning, and facility accessing, evaluating, and using information
3. Build consensus around expectations for capstone projects and papers. Based on the abilities and rubrics used to assess capstone projects and the sample of papers the Committee assessed using VALUE rubrics, expectations vary widely from major to major. Some learning outcomes are set (or stated) at very basic levels, (“recite”), while others demand sophisticated academic competence, “????”. Likewise, capstone assignments varied widely in the degree of challenge, skills, and critical thinking required. Assignments ranged from the strictly reportorial (“What is . . .”), to the highly analytical “????” We are aware that revisions to many majors and the deliberations of UCASC and the Council of Major and Program Coordinators are moving toward greater standardization of higher expectations and look forward to the results of those efforts in future capstone products.

Recommendations for assessment process

Just as our curricular recommendations call for more consistency in teaching and learning key general education competencies, so our recommendations for assessing that learning also call for a more integrated approach:

1. Develop and adopt common instruments for assessing the key general outcomes upon which the faculty agree, above. Common evaluation tools will help reinforce standards and expectations for students and faculty and facilitate tracking student achievement across programs and majors. If we can agree that when a “conclusion is logically tied to a range of information, including opposing viewpoints; [and] related outcomes (consequences and implications) are identified clearly,” demonstrates a component of critical thinking at Milestone 2, (AAC&U VALUE Rubric for Critical Thinking), then we will be able to recognize that level of accomplishment whether students do it whether they are drawing conclusions in an analysis of public policy, a piece of literary criticism, or reporting the findings of a science experiment. Our Committee struggled to compare data because the sources available to us were so inconsistent.

Common rubrics (perhaps derived from the VALUE models) will not only affirm common capstone expectations but also break down the abilities so we can agree what

constitutes performance at the entry, milestone and capstone or meets, approaches, or exceeds expectations levels. We also recommend choosing one or the other of these scales for common use so that findings can be compared. Institutional rubrics are also a tool for students to set goals and monitor their own progress. Different departments might apply one or more rubrics wholesale or select component parts to include in their local assessment instruments.

2. In developing common assessment instruments, we must grapple with the extent to which national standards apply to JJ students. This question gets to the heart of our institutional identity. As long as we admit underprepared students with extensive obligations outside their studies, how much achievement can we realistically expect? How do we set reasonable academic goals? In our study, very few competencies saw widespread achievement at the AAC&U Capstone level. Is there a value to defining higher standards that few of John Jay's current students can meet? Will that allow us to aim higher or to track the improvement in outcomes if and when the college enforces higher admissions standards, implements the new general education program, and continues to improve teaching and academic support services for students? Or will we continue to be frustrated and disappointed that we are not meeting more impressive targets? In other words, can we live with facing mediocre – or worse – outcomes in some areas today in order to set the bar higher in the hope of better results in the future?
3. Establish small, multidisciplinary subcommittees to conduct assessment of the selected competencies. We recommend that each subcommittee include at least one specialist in the area being studied (English for writing, science for scientific reasoning, etc.) and faculty from a range of other departments to reap the benefits of both perspectives. Our Committee would have benefited from such expert consultation.
4. Offer (or require) faculty development to norm scoring of common instruments for general education outcomes.

Recommendations for formulating a general education assessment plan

Now that we have completed this baseline study and identified some of the issues and challenges to be faced in future assessment of general education at John Jay, the ground is ready to develop a formal assessment plan in the fall of 2012. Among the decisions to be made in constructing that plan are the following:

1. Should gen ed assessment be organized according to the Middle States-recommended competencies used in our study or according to one or more sets of institutional goals and learning outcomes (See Appendix C: *Comparison of John Jay College Institutional and Undergraduate Learning Goals with Pathways, Middle States Competencies, and AAC&U VALUE Rubrics*)? On the one hand, this is a pragmatic choice. On the other, it forces us to decide which undergraduate outcomes are most central to our mission and

academic identity at the same time that we determine the extent to which we will have to conform to CUNY-wide assessment requirements and the extent to which we demonstrate the unique capacities that are the product of a John Jay education.

2. Where in the curriculum should the common outcomes be assessed? After outcomes for the new general education curriculum are mapped (by the General Education Subcommittee of UCASC?), we will need to determine at what points to assess which outcomes. Because courses within a single area of the new curriculum share outcomes, it will be possible to assess across courses and levels within the area to get both formative data as well as summative data at the capstone level. One option is to assess at the course level for each Pathways and College Option area and again at the capstone level for common abilities across the curriculum (such as writing or the three common outcomes for all courses in the Flexible Core).
3. What rubrics or other instruments should be used and how consistently should they be applied across campus? We liked the specificity of the VALUE rubrics and found them easy to apply to our diverse sample of capstone papers. One possibility is to have multidisciplinary faculty teams review and if necessary modify the VALUE rubrics so that they reflect agreed upon common outcomes, standards and developmental expectations. Additional VALUE rubrics are available as models for assessing competencies outside the scope of this study.
http://www.aacu.org/value/rubrics/index_p.cfm?CFID=38762889&CFTOKEN=73381902.
4. When should individual outcomes, courses, and the new general education program itself be assessed? Depending on how the assessment is designed (i.e. how many outcomes will be evaluated), we recommend an initial 3-5 year schedule that includes simultaneous annual assessments of one or more outcomes on a rotating basis. The schedule should also include regular reports of findings and recommendations as well as proposals for and reports of adjustments to the findings, and follow-up assessment through the rotation process.

These questions strike at the core of our institutional identity. They ask us to decide which are our most important general education priorities and most fervent wishes for what every John Jay graduate will take with her/him. The answers will help us craft a clear and consistent roadmap to achieving those results for ourselves and, most important, for the students who entrust us with preparing them for the complex, demanding, and interconnected world beyond our doors.

