

# COMMITTEE ON ASSESSMENT 2011-2012 YEAR-END REPORT

**Members:** Natalie Priebe Frank (chair), Peipei Qiu (elected member), Fubing Su (elected member), Marianne Begemann (associate dean of the faculty, serving in Fall 2011) Eve Dunbar (Associate Dean of the Faculty, serving in Spring 2012), David Davis-Van Atta (Director of Institutional Research), and Ja'Wanda Grant (Director of the Center for Science and Quantitative Reasoning).

## 1. MISSION

According to the Governance: “The committee on assessment examines and evaluates the practices in place to achieve the colleges educational goals as stated in its mission statement and elsewhere. Over a ten-year period it addresses all of the Standards for Accreditation published by the Middle States Commission on Higher Education.”

We approached our discussions this year with an eye toward the 2008 report from Middle States, which requires us to provide evidence of

“... (2) implementation of a comprehensive, organized and sustained process to assess student achievement of institutional, program, and course-level learning outcomes and evidence that student learning assessment information is used to improve teaching and learning (Standard 14).”

A Periodic Review Report will be due to Middle States on June 1, 2014, and the committee is concerned about the sustainability of projects like the writing study that has been initiated this year. We have a few modest proposals that address the Middle States concerns more directly.

The specific charges given to us by the 2010-2011 Committee on Assessment were threefold. We were to assist, if necessary, with the writing study devised by last year's committee. We were to discuss the results of the Wabash study with David Davis-Van Atta. Most importantly, we were to begin an assessment of student learning gains with regard to our Quantitative Analysis requirement.

## 2. PROCESS AND PROGRESS

It turned out that we were not needed for the writing study, and the results of the Wabash study never became available during AY2011-2012. Thus we turned our full attention to the question of quantitative analysis. We began with a review of the COFHE<sup>1</sup> data from our 2010 senior class. The results are truly sobering and suggest a state of crisis: our students at large came in dead last among 22 peer institutions in their rating of the importance of using quantitative tools, and nearly last in the importance of understanding the scientific method and evaluating the role of science and technology. At the same time, in their self-assessment of their learning gains in those three areas, the number of students who said they are “much stronger now” was last or nearly last among 39 highly selective colleges and universities, while the number of students who said they had “no change” or are “worse now” came in first or nearly first.

DDVA dug deep into the data at our request, separating math and science majors from Vassar and from peer institutions for which he had data on majors. Vassar's math and science majors fared only slightly better relative to their peers at other institutions than our student body at large. In fact they rated particularly poorly in their ratings of the importance of and ability to use quantitative tools. Although the COFHE survey is not direct measure of learning outcomes, it is quite clear that **our QA requirement is having little positive effect on how our students feel about whether quantitative and scientific methods matter**. This upsetting fact cannot be directly addressed by

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<sup>1</sup>Consortium on Financing Higher Education

the Assessment Committee, so we turned our attention to an attempt to understand how to assess our current QA requirement.

One obvious idea was to do some sort of pre- and post-testing of our students. This didn't seem possible given that we have no agreed-upon goals for Vassar's desired QA skills or knowledge. The definition of "quantitative" appearing in the handbook is left so broad as to be completely un-assessable on a college-wide level.

Another obvious starting point was the QA subcommittee reviews of courses. We quickly discovered that after three years of reviews, the subcommittee had essentially dissolved and was not following up on any such review. Ja'Wanda Grant made contact with the current CCP member on the subcommittee and kick-started the process again for this year, so future Assessment Committees will have data to work with from this direction.

The obvious now shelved, we decided to try to discern what the college actually says about the QA requirement. Our members canvassed all of the QA courses on record and looked at their descriptions in the Course Catalog. We found that almost none of them referred to the quantitative aspects of their courses at all. We scoured the college website and the faculty handbook but found that there was no particular discussion of the requirement except on the Dean of Freshman web page and a brief comment in the requirements for graduation section of the Course Catalog. It became more and more clear that in order to assess the learning outcomes, we as a college need to decide what those outcomes should be.

We spent the remainder of the year thinking about concrete recommendations for the assessment of not only QA, but also the freshman writing seminar, the language requirement, and the college as a whole.

### 3. RECOMMENDATIONS

**3.1. To facilitate the Assessment Committee's work.** In some sense this is the most important of our recommendations, especially if there is going to be a serious treatment of assessment on campus. As a group we felt unqualified to handle the task of assessment without the guidance of someone more expert in the area.

- (1) Devise a centralized knowledge base of the educational assessment initiatives being undertaken around campus. We found it difficult to manage the charge of overseeing the assessment efforts on campus without this.
- (2) Provide institutional support in the form of somebody who has knowledge of modern assessment structures and who knows what assessment initiatives are going on around campus. Perhaps this could be part of the job description of the new director of the LTRC. If that director is to be a faculty member, then the college should provide support for them to become knowledgeable in assessment methods.
- (3) We are in agreement that membership should be three years, with staggered terms to ensure continuity.
- (4) We are not sure that it is effective to have each year's charge be given by the committee from the previous year. Perhaps it would be more effective to provide recommendations but allow flexibility. If there are staggered terms, we believe that ongoing projects will not be forgotten from year to year.

**3.2. To begin assessment of the QA requirement.** In order to assess a requirement such as the QA requirement it is essential to know what learning goals are intended to be met. After extensive research done by the committee we found that at the moment there is no particular aim to the QA

requirement. Our main recommendation is for the QA subcommittee of CCP to develop guidelines for all QA instructors, with specific goals and outcomes that may be emphasized. We believe there can be a “menu” approach. For concreteness, in Appendix A we attach a sample of the sort of document we hope will be produced.

With the goals and outcomes in place, QA instructors can attend LTRC workshops to facilitate the transition to courses that are more targeted. The CEQs can ask questions specific to these goals, and we have provided a sample CEQ for QA courses in Appendix B. The QA subcommittee of CCP will then have specific points to assess during their periodic reviews. And, in time, this should enable assessment of Vassar’s QA requirement and initiatives.

### 3.3. General assessment recommendations.

3.3.1. *Using the CEQs for assessment.* At the course level we should be using a numerical portion of the CEQs for the assessment of **courses**, not just instructors. Currently only the narrative section of the CEQs is meant to give feedback on the way students assess a course’s content. These numerical indices have little information regarding a course’s content success, rather they highlight the perceived success or failure of the instructor.

We attach a sample questionnaire for QA in Appendix B and for the freshman writing seminar in Appendix C to help understand what the committee has been thinking about. Once we have decided upon learning goals and outcomes for a program such as QA, we can ask the students the extent to which they have achieved the goals. We believe this should be done specifically for the three requirements, with questions related to the goals of those requirements.

We also believe that instructors should be able to self-assess using a well-designed CEQ. We have attached in Appendix D some sample questions that we feel provides information an instructor could act upon quite readily.

3.3.2. *Using registrar data for assessment.* At the institutional level we have to defend our lack of requirements. In 2008’s tagging exercise we were able to make the case that our students take a broad program. The downside of the tagging exercise is its sustainability: it can’t be completed by a large body of faculty every year and is too extensive a project for a single individual. We propose an alternative that, while not perfect, is both completely objective and easy to execute: We suggest that each year the registrar compile data on the programs of all graduating seniors by breaking down their transcripts by division, as is done for the Phi Beta Kappa selection committee. The registrar should be consulted to find out the possibilities and limitations of the new system they will be using. We recommend that this data be compiled and presented to the Assessment Committee at the beginning of each academic year.

The committee would pay special attention to what percentage of our students take a trivial number of courses in a certain division. For instance, how many students took one course in the Natural Sciences division to satisfy their QA requirement, then took nothing else for their entire Vassar career? How many students tested out of the language requirement and did not ever take a language course here? Such information might help us understand the troubling COFHE data and could affect how we advise our students or change our requirements.

## 4. CHARGE TO THE 2012-2013 COMMITTEE ON ASSESSMENT

4.1. **Assessing assessment on campus.** The committee on assessment is meant to evaluate the educational assessment initiatives being taken around campus. We recommend that next year’s committee begin to accumulate information on these initiatives and place that information into a format that can

be sustained. For example, the COFHE survey will run every fourth year and we can use this data to look for trends over time.

As per Middle States' report, we suggest that this information be at the institutional, program and course levels.

**4.2. Assessing the third requirement.** The Assessment Committee has worked on the Freshman Writing Seminar several times and writing in general. This year we thought about the QA requirement and how to begin an assessment of it. It seems natural that there should be an assessment of the language requirement. For instance, why is it the only requirement that can be tested out of? What do we hope for our students to learn?

The committee wonders whether our current requirement is sufficient to meet the need for students to have a global perspective. Should we open up a discussion about how to ensure that our students are exposed to cultural diversity during their time here?

**4.3. Departmental assessment.** In light of the middle states mandate it seems that the committee should take steps to ensure that a sustainable, comprehensive system of assessment begins to be put in place. An initiative in this direction began in 2008 when all departments wrote statements about the learning goals and educational outcomes they hoped for students to achieve in the study of their disciplines. The committee could set forth some concrete ideas for assessment of educational outcomes in each department/program based on these, and request that the departments develop such a plan. **Note: this will require strong support from President Hill and Dean Chenette.**

## 5. CONCLUSION

Assessment is meant to work as follows: we set learning goals for our students and then we try to tell if the goals have been met. We should do this not only in individual courses, but also in departments and programs and in the college as a whole. Once there is information in hand we can keep what works and try to improve what doesn't. A key component at every level is to make sure that we know what is expected from the students, and that the students also know what is expected.

The most important thing the committee realized this year was that it is not reasonable to assess something that has not been intentionally placed in the curriculum. The committee thinks that the vagueness of the goals of the QA requirement may have led, in part, to the crisis the COFHE data suggests. Thus our path has been to lay the groundwork to collect data, since there is not much data yet to collect.

We believe it is essential that whatever assessment we do be simple, sustained, and provide actionable data.

QA COURSE GUIDELINES<sup>2</sup>

We preface the guidelines by referencing the following statement from the Dean of Freshmen on the importance of quantitative literacy:

Today's society demands that citizens be able to understand and use mathematics and statistics in order to make informed decisions. Facility in quantitative reasoning is an important component of liberal education. Quantitative reasoning includes the ability to understand and evaluate arguments framed in quantitative or numerical terms; to analyze subject matter using quantitative techniques; to construct and evaluate quantitative arguments of one's own; and to make reasoned judgments about the kinds of questions that can be effectively addressed through quantitative methods. Accordingly, all Vassar students are required before beginning their third year to complete a full-unit course that includes a substantial majority of quantitative analysis.

In order to be more targeted in how we meet the goal of having a "substantial majority" of the course material be quantitative, the QA subcommittee of CCP suggests the following.

(1) **Goals and Outcomes**

The MAA has six core competencies for quantitative reasoning. They are:

- (a) read and understand quantitative information in graphs, tables, etc.
- (b) interpret quantitative information and draw appropriate inferences
- (c) solve problems using logic, math, and/or statistics
- (d) estimate answers and check them for reasonableness
- (e) communicate quantitative information verbally, graphically, and/or numerically
- (f) recognize the limitations of a mathematical or statistical model

Instructors of QA courses should target at least **four** of these six core competencies. They should advertise their goals for these competencies in the syllabus and emphasize them throughout the semester.

(2) **Lectures, readings, and classroom work**

A substantial majority of the content presented to students should be quantitative in nature. That is, at least half of the content that the students are shown should contain quantitative ideas that push forward some part of the six core competencies.

(3) **Written work and grading**

A substantial majority of the work produced by the students should be quantitative in nature. That is, at least half of the work on which the student's grades are based should relate to some part of the six core competencies.

(4) **Clarity of expectation**

The course syllabus should clearly state what the quantitative learning goals are for the course.

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<sup>2</sup>to be altered by the QA subcommittee of CCP

APPENDIX B. SAMPLE ASSESSMENT-RELATED CEQ QUESTIONS FOR QA<sup>3</sup>

- (1) How good with quantitative information did you consider yourself to be at the beginning of this course?

terrible                      pretty bad                      OK                      pretty good                      excellent

- (2) As a result of this class, how good with quantitative information did you consider yourself to be now?

terrible                      pretty bad                      OK                      pretty good                      excellent

**NOTE: the next six questions are about the specific goals the MAA sets for Q competency**

- (3) As a result of this course, my ability to read and understand quantitative information in graphs, tables, etc. has (circle one)

remained about the same                      improved                      greatly improved

- (4) As a result of this course, my ability to interpret quantitative information and draw appropriate inferences has

remained about the same                      improved                      greatly improved

- (5) As a result of this course, my ability to solve problems using logic, math, and/or statistics has

remained about the same                      improved                      greatly improved

- (6) As a result of this course, my ability to estimate answers and check them for reasonableness has

remained about the same                      improved                      greatly improved

- (7) As a result of this course, my ability to communicate quantitative information verbally, graphically, and/or numerically has

remained about the same                      improved                      greatly improved

- (8) As a result of this course, my ability to recognize the limitations of a mathematical or statistical model has (circle one)

remained about the same                      improved                      greatly improved

**NOTE: These questions relate to the “substantial majority” criteria**

- (9) During class sessions we spent \_\_\_\_\_ of our time thinking about quantitative material.

very little (0-25%)                      some (25-50%)                      a lot (50-75%)                      almost all (75-100%)

- (10) Our written work included \_\_\_\_\_ quantitative analysis.

very little (0-25%)                      some (25-50%)                      a lot (50-75%)                      almost all (75-100%)

- (11) There was \_\_\_\_\_ quantitative material on our exams.

very little (0-25%)                      some (25-50%)                      a lot (50-75%)                      almost all (75-100%)

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<sup>3</sup>To be altered as appropriate once the guidelines are established

APPENDIX C. ASSESSMENT-RELATED QUESTIONS FOR FWS<sup>4</sup>

- (1) How good of a writer did you consider yourself to be at the beginning of this course?  
 terrible                      pretty bad                      OK                      pretty good                      excellent
- (2) As a result of this course, how good of a writer do you consider yourself to be now?  
 terrible                      pretty bad                      OK                      pretty good                      excellent
- (3) About how many revisions did you do on the paper that you revised the most times?  
 0-1                                      2-3                                      4-5                                      more than 5
- (4) About how many revisions did you do on the paper that you revised the fewest times?  
 0-1                                      2-3                                      4-5                                      more than 5
- NOTE: There may be several of these, based on the new FWS goals/outcomes**
- (5) As a result of this course, my ability to *fill in rubric concept here* in my writing has  
 remained about the same                                      improved                                      greatly improved

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<sup>4</sup>To be altered once the guidelines are rewritten

## APPENDIX D. QUESTIONS TO HELP INSTRUCTORS SELF-ASSESS

- (1) In order to maximize how much a student like you could learn in this class, the difficulty level of course material should (circle one)  
 be greatly reduced    be reduced    stay the same    be increased    be greatly increased
- (2) In order to maximize how much a student like you could learn in this class, the difficulty level of examinations should  
 be greatly reduced    be reduced    stay the same    be increased    be greatly increased
- (3) In order to maximize how much a student like you could learn in this class, the number of topics covered should  
 be greatly reduced    be reduced    stay the same    be increased    be greatly increased
- (4) In order to maximize how much a student like you could learn in this class, the number of assignments should  
 be greatly reduced    be reduced    stay the same    be increased    be greatly increased
- (5) In order to maximize how much a student like you could learn in this class, the frequency/spacing of assignments should  
 be greatly reduced    be reduced    stay the same    be increased    be greatly increased
- (6) In order to maximize how much a student like you could learn in this class, the pace at which topics were covered should be  
 be greatly reduced    be reduced    stay the same    be increased    be greatly increased
- (7) In order to maximize how much a student like you could learn in this class, the pace of lectures should  
 be greatly reduced    be reduced    stay the same    be increased    be greatly increased
- (8) In order to maximize how much a student like you could learn in this class while balancing the instructor's time, the amount of feedback on written work should  
 be greatly reduced    be reduced    stay the same    be increased    be greatly increased
- (9) In order to maximize how much a student like you could learn in this class while balancing the instructor's time, the quality of feedback on written work should  
 be greatly reduced    be reduced    stay the same    be increased    be greatly increased
- (10) The way my work was graded seemed  
 way too lenient    too lenient    about right    too strict    way too strict
- (11) The balance between lecture and discussion might be more useful if there was  
 a lot more discussion    more discussion    no change    more lecture    a lot more lecture
- (12) The balance between student- and instructor-driven discussion might be more useful if it was lead  
 by students always    by students more    no change    by instructor more    by instructor always