

Francis Marion University

Evaluation of General Education Report for 2006-2007

After a lengthy series of studies the Faculty adopted a formal procedure for evaluation of the University's general education program. The University's plan to assess general education consists of four primary strategies:

1. An external professional provides a qualitative evaluation of the appropriateness of the general education curriculum and governance of the program.
2. Course-embedded, criterion-referenced measures developed and implemented by academic departments to assess specific skills.
3. Survey data from students and faculty to assess attainment of general education goals not addressed through direct measures referenced above.
4. The Office of Institutional Research uses two measures to provide comparison of students' academic skills and experiences with appropriate external norms. The Measure of Academic Proficiency and Progress (MAPP) exam provided by ETS is used to assess general academic skills and the National Survey of Student Engagement to assess student experiences at the University.

Summary of findings

Conclusions on appropriateness of general education curriculum:

FMU's general education requirements are strong, and some elements are very strong. The fact that all students must complete English 200, the *third* composition course for students who enter having to take English 111 (the most basic composition course), makes for a very strong composition/writing requirement. Technology and oral communication skills are addressed by virtue of all students having to take computer science and speech. The humanities area is also well-covered, with all students having to take a course in History, Literature, and Art, Music, or Theatre. The 6 hour requirement in mathematics surpasses what many liberal arts and comprehensive teaching university's institutions require. The fact that a laboratory experience is included in all science courses that fulfill the general education requirements is also impressive. Finally, the 12 hour foreign language for the B.A. degree is quite stringent, especially for students who may enter with weak foreign language backgrounds. It is hard to imagine a review scenario in which the general education program at FMU would not be judged as meeting or exceeding SACS general education standards.

The general education program at many universities consists primarily of distribution requirements that stress breadth of study across many academic areas while other universities seek to assure that students experience depth of study in core areas. The FMU general education program addresses both depth and breadth of study.

Integration and application of general education knowledge and skills, or the lack thereof, is an issue at many universities, with first and second year experiences emphasizing general education and junior and senior years emphasizing major studies. Thus, general education can become something that students see as needing to be complete while "on their way" to major courses and experiences. At FMU, academic departments appear to value and stress general education as part of major programs. Many departments have senior or capstone experiences in which students integrate and apply what they have learned through both general education and major courses.

Internal Assessments of Core Skills

Biology

For the Fall 2006 semester, a quiz to assess how well our students have met the general education goals for science was given to a sample of students from two different freshmen biology courses, Introduction to Sciences (Biology 105) and Human Biology (Biology 104). The quiz was given in the laboratory sections taught by full-time instructors during the week of the last laboratory session, which is the week immediately before the week when final exams begin. The quizzes were of a multiple choice format. The numerical and simple statistical parameters of the quizzes and results were tabulated and analyzed by the Academic Computing Center. Students in the introductory biology laboratory met the 60 percent benchmark established by the department faculty.

Mathematics

For the Fall Semester of 2006, the Department of Mathematics assessed 157 students in Math 111 (College Algebra and Analytic Geometry, II) utilizing ten common questions as part of the final examination. In general, those students who were successful in the course (those with a grade of A, B, or C) were successful on these ten common problems.

Strengths were found in solving algebraic equations and word problems in which formulas or models for the problem were provided. The weakest area involved word problems in which the student had to determine the correct formula for the problem. Having trouble with word problems is, sadly, typical of college students in general, but the Department plans to put more emphasis on this area in the future.

Physics and Physical Science

Of the department's course offerings that satisfy the general education requirements, the Physical Science 101 course typically has the largest enrollment and contains the

largest cross-section of student representative of the student body as a whole. It is for these reasons that this course was used for these assessment purposes. In particular, the laboratory component was used because the department decided to use the experimental process to assess student mastery of the concepts and techniques critical to scientific inquiry. The results presented below are those that were obtained for the Fall 2006 and Spring 2007 semesters. Our assessment activity took the form of an experiment in which students were given a task of designing a procedure, collecting relevant data, and drawing conclusions based on that data. There was a noticeable improvement overall in the percentage of students that were able to arrive at the correct relationship indicated in question #4. This may be due to the fact that the test was moved to the end of the semester as opposed to midterm, allowing for better student preparation. There was no significant improvement between the two semesters in the students' ability to distinguish between slight measurement variations due to experimental errors and actual causal relationships. This result may suggest that instructional improvement in this area is needed.

Psychology

The primary general education goal that the introductory psychology course and lab is designed to meet is the ability of our students to use the basic tenets of the scientific method in everyday life situations. To test student ability to use the scientific method in everyday life student performance was measured on ability to produce research of actual hypotheses and to assess ability to use the basic tenets of the scientific method to compare actual research reports. The strengths of our instruction are the ability of our students to generate an appropriate research design and willingness to cite alternative explanations of research results. Of most concern is the low level of use of randomization as a design control mechanism. Our students are clearly able to recognize the research hypotheses and draw the correct conclusion from the results from actual research studies. As expected the students had more difficulty extrapolating from the study to use of the results in everyday life and to point out the limitations of the results.

Computer Science

The Computer Science program teaches the Computer Science 150 course that is required for all students as part of the general education curriculum. While passing the course is a requirement for the general education curriculum, the faculty developed a performance/skill based assessment to provide documentation of the computer literacy of students passing the course. A very high percent of our students that pass the required computer science course demonstrate that they can make appropriate use of two primary computer programs. Appropriate use of these programs is often seen as a valid measure of literacy in computers.

Speech

To assess the University's general education goal for oral competency, the program in Speech Communication administered the *Competent Speaker* evaluation to 559 students taking Speech 101 in the Fall 2005 and Spring 2006 semesters during the persuasion portion of the course. The program had established a benchmark of 65% on the *Competent Speaker Evaluation*. The current speech course fulfills the benchmarks that have been established by the program.

Writing

The English faculty scores writing portfolios from a sample of students who complete the composition sequence (through English 200). Papers are scored for programmatic and course specific goals. The following goals were assessed: ability to use language conventions, ability to develop ideas interesting to audience and appropriate to context, ability to organize ideas appropriately, and ability to use external resources appropriately. The competent scores ranged from a low of 35 % to a high of 100% with a mode of 80-90 percent.

Student Assessment of General Education

Office of Institutional Research conducts an exit exam of graduating seniors at the rehearsal for each graduation. Items having graduating seniors evaluate their educational experiences in their major and general education are included in these surveys. The students in the 2005-2006 and 2006-2007 cohorts were very satisfied or satisfied with their overall educational experiences at FMU which is consistent with past on the alumni survey. These ratings are on a 6-point scale (1= very dissatisfied; 6=very satisfied). The same high levels of ratings were found for overall, major and general education instruction. Single-sample t-tests show the value of the graduating seniors rated the effectiveness in all areas as higher than "satisfied", all t's >7.0, p's <.001, d's >.15.

Mean Ratings of Major and General Education Programs and Instruction by Graduating Seniors

Term	Major Program	Major Instruction	General Education	General Education Instruction	Overall Academic Experience	Overall Experience
Spring 2005 (N=217)	5.18(.81)	5.43 (.76)	5.16 (.73)	5.22 (.70)	5.41(.74)	5.45(.73)

Fall 2005 (N=186)	5.60(.61)	5.58 (.61)	5.24(.80)	5.26 (.68)	5.50(.59)	5.52(.58)
Spring 2006 (N=260)	5.40(.79)	5.36(.83)	5.09(.90)	5.14(.82)	5.35(.74)	5.35(.80)
Fall 2006 (N=172)	5.6 (.64)	5.56(.61)	5.25(.73)	5.27(.75)	5.51(.60)	5.51 (.68)
Spring 2007 (N=296)	5.54(.69)	5.43(.77)	5.20(.80)	5.24(.71)	5.48(.61)	5.50(.60)

Note: Standard deviations in parentheses

Goal Specific Ratings by Faculty and Students

The Faculty plan for evaluation of general education goals called for the faculty to rate the preparation of students in upper-level courses on six qualitative goals. The plan called for students to rate themselves on the same goals. Ratings on the selected goals were included in the graduating senior exit survey the Fall of 2006 and Spring 2007. Faculty rated the designated goals in a survey in the Spring of 2007.

Mean Ratings of General Education Goals by Graduating Seniors and Faculty, 2006-2007

General Education Goals	Graduating Seniors	Faculty
1. The ability to write and speak English clearly, logically, creatively, and effectively	5.76 (1.29)	Unrated
2. The ability to read and listen with understanding and comprehension	6.03 (1.08)	Unrated
3. The ability to locate, organize, document, present, and use information and ideas.	6.14 (.97)	unrated
4. An understanding of the cultural heritages of the United States and knowledge of the language and literature or [of?] another country	5.74 (1.24)	5.43 (1.43)
5. An understanding of the artistic processes and products	5.46 (1.31)	5.54 (1.32)
6. An understanding of fundamental mathematical principles and the skills to apply them.	5.93 (1.13)	Unrated
7. The ability to use computers for acquiring, processing, and analyzing information	5.99 (1.12)	5.92 (1.91)
8. An understanding of the natural world and the ability to apply scientific principles to reach conclusions.	5.86 (1.15)	Unrated
9. An understanding of the diverse influences which have shaped the development of civilization and which affect individual and collective human behavior.	5.68 (1.22)	5.61 (1.26)
10. An understanding of the governing structures and operations of the United States including rights and responsibilities of its citizens.	5.69 (1.58)	5.72 (1.12)
11. The ability to reason logically and think critically in order to improve problem-solving skills and the ability to make informed and responsible choices.	5.63 (1.27)	5.30 (1.51)

Mean for all goals	5.60 (1.1.1)	
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Note: 7-point scale (1=disagree strongly; 7=strongly agree with goal attainment or student readiness).

Alumni Survey for 2001-2002 Cycle and 2003-2005 Cycles

The survey of alumni required by the Commission of Higher Education for the past two cycles have been carried out and the mean ratings for the quality of the overall academic program, the quality of major and general education programs and instruction in major and general education are obtained using a six-point scale (1=very dissatisfied; 6=very satisfied). The mean ratings by cycle are found in Table X. Analysis of ratings by cycle revealed no significant differences between cycles (all *t*'s < 1). Essentially our students rate the quality of experiences in both their major program and general education highly. As can be seen in Table Y the over 80 percent of our alumni found their academic experiences as satisfactory or very satisfactory. These results are consistent with the results found in the exit surveys and the NSSE data.

Mean Ratings of Major and General Education by Cycle

Ratings by Area	2001-2002		2003-2005	
	Mean	SD	Mean	SD
Overall Academics	5.37	.62	5.30	.89
Major Program	5.41	.75	5.35	.88
Instruction in Major	5.32	.78	5.23	.98
General Education	5.06	.62	5.11	.84
General Education Instruction	5.12	.58	5.08	.81

Note: 6-point scale (1=very dissatisfied; 6=very satisfied)

Measure of Academic Proficiency and Progress

The MAPP was administered to a sample of students taking either English 111 or English 112 to insure a sample of entering Freshmen (N=51). Of more importance for our immediate purpose was a sample of graduating seniors who had completed their general education curriculum. To create the senior sample students from the senior courses in the liberal arts, business and education were used to create the senior sample (N=92). The overall analysis of the normative scores allows the following conclusions:

- There is no evidence for major concerns in our general education program in the humanities, social sciences, and natural sciences.
- There is evidence that our programs may not be as effective in two areas: writing and mathematics.
- The lower performance in writing and mathematics are probably not specific to failings in the Mathematics and English departments, but may be university wide problems with the amount and level of writing and mathematical thinking required of students after completion of their freshman courses.

National Survey of Student Enrichment

A total of 397 freshmen and 417 seniors were included in our sample for NSSE. The return rate for freshmen was 21 percent and 41 percent for seniors. The return rate for seniors is higher than our comparison groups (~35%), but the return rate for freshmen is lower than for our comparison groups (~30%). This may be due to a higher proportion of our sample living off-campus compared to the comparison groups. The demographics of the sample are reflective of the characteristics of our entire freshmen and senior classes. Two factors did differ significantly from our peers. First, 83 percent of our freshmen sample was female versus ~69 percent for our peers. This difference appears to be due to a higher rate of return from females than males in our freshmen sample. Secondly, our percent of Black/African American students (35 and 27 % for freshmen and seniors respectively) is significantly higher than our selected peers (15 and 17 %) and our Carnegie or NSSE peers (~6 and ~5 %).

We can say with confidence that our University provides an engaging environment in which our students feel that they have received a valued education. Our seniors do not perceive any deficits in our program, but do rate us significantly higher than our peers in the following areas: degree of faculty-student interaction and the degree to which our University provides a campus that are supportive of their academic and non-academic pursuits. Our seniors evaluate their academic advising and their overall educational experiences at the University significantly higher than all of our comparison groups and are more willing to return to the University if they were to start over than our selected peers and Carnegie peers. Our freshmen perceive two aspects of their experiences in a less favorable light than students in our comparison groups. First, our freshmen do not rate their experience of collaborative or active learning as highly as the students in the comparison samples. This difference is primarily due to less questioning and discussion in class, fewer class presentations, cooperative projects, collaborative work outside of class, and community-based learning experiences. Second, our freshmen do not perceive their extra-curricular activities as enriching as those of students in the

comparison samples. This difference is due to a lower level of community/service work, course work in a foreign language and study abroad.