An Analysis of
Major Field Achievement Test Results

Spring 2004

Executive Summary

June 17, 2004

Purpose of Major Field Tests

The Major Field Tests are objective, end-of-program tests in 14 disciplines designed to measure basic knowledge and understanding achieved by senior undergraduates in their major field of study. Scores on the MFAT provide useful information for institutions seeking outcomes measures and for departments in evaluating their curriculum. The results can also be useful for monitoring change over time, comparing student performance in several disciplines, comparing performance of students with different experiences in the major, and assessing performance relative to absolute standards. Major Field Tests are available for the following disciplines: biology, business, chemistry, computer science, economics, education, history, literature in English, mathematics, music theory and history, physics, political science, psychology and sociology.

Historical Perspective

The Major Field Achievement Tests were developed in 1989 following concerns voiced by undergraduate institutions for valid, reliable measures of the outcomes of instruction in the disciplines. In response to the concerns, ETS developed the Major Field Achievement Tests as shorter, less difficult versions of the GRE subject tests.

Methodology

Major Field Achievement Tests were administered during Assessment Day activities to seniors who were invited by their department chairs to sit for the exam. Tests of literature in English, psychology, biology, and mathematics were administered to approximately 41 students.

The ETS website describes MFAT as reflecting the basic knowledge and understanding gained in the core undergraduate curriculum. The tests are two-hour, multiple-choice examinations designed to assess mastery of concepts and principles as well as knowledge expected of students at the conclusion of a major in specific subject areas. They go beyond measurement of factual knowledge, however, because they also evaluate students' ability to analyze and solve problems, understand relationships, and interpret material.
Results

During Assessment Day 2004, 41 students from the departments of English (4), biology (17), psychology (12) and mathematics (8) agreed to complete the Major Field Test in their respective departments. Of the 41 students who participated in this pilot test program, 97% were full-time, 48% transferred to FSU from other institutions, 76% were female, 70% African-American, and 42% said their educational goals included the masters degree. Thirty percent self-reported their major field GPA between 3.0 and 3.49.

The results of the MFT are reported as Assessment Indicators. These scores relate to a subfield within a major field of study. Assessment indicator scores are reported as mean percent correct for the department. By obtaining data on the performance of total groups of students (all English majors, it is possible to report group scores on the reduced number of test questions. The assessment indicators also enable a department to disregard results from an area covered by the test but not by the curriculum.

Average Scores by Department

<table>
<thead>
<tr>
<th>Subject</th>
<th>National Percentile</th>
<th>FSU Average</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature in English</td>
<td>Not Reported</td>
<td>Not Reported</td>
<td>Not Reported</td>
</tr>
<tr>
<td>Biology</td>
<td>47%</td>
<td>147.3</td>
<td>10.5</td>
</tr>
<tr>
<td>Psychology</td>
<td>42%</td>
<td>142.4</td>
<td>10.5</td>
</tr>
<tr>
<td>Mathematics *</td>
<td>TBA</td>
<td>TBA</td>
<td>TBA</td>
</tr>
</tbody>
</table>

Summary

The sample size for The Major Field Test is too small to make any generalizations about the proficiency level of FSU students in the majors assessed. Nevertheless, the following results provide a summary of how FSU students performed. Approximately one-third of the sample scored above the 50th percentile. Total scores are reported on a scale of 120 – 200 while individual scaled scores are on a scale from 20 – 100. FSU student scores in biology ranged from 120 to 158, psychology scores, from 133 to 174, and English scores, from 120 to 168. Two students, one from biology and one from psychology, had scores that placed them at the 94th and 92nd percentile, respectively. The assessment indicators on which FSU students show relative strengths are (1) “memory and thinking” (psychology) (2) “cell structure, organization/function (biology), (3) organismal - animal structure & function (biology), and (4) diversity of organisms (biology).

Recommendations and Implications

The following recommendations regarding MFT are presented for consideration:

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1 Math scores will not be available until August due to unfinished equating process at ETS.
1. Re-examine the MFT to determine which aspects of the curriculum are measured.

2. Request inspection copies of respective tests.

3. Share results with chancellor, provost, deans, and affected department chairs.

4. Because of its potential value to overall knowledge development in specific disciplines, advise students of the benefits to sitting for MFT.