

The Major Field Test in Business: A Pretend Solution to the Real Problem of Assurance of Learning Assessment ¹

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Colleges and universities are being asked by numerous sources to provide Assurance of Learning assessments of their students and programs. Colleges of Business have responded by using a plethora of assessment tools, including the Major Field Test in Business. In this article, we show that the use of the Major Field Test in Business for Assurance of Learning purposes is ill-advised. First, it provides no direct evidence of student learning. Second, it offers no useful comparative analyses to other business students or institutions. Consequently, it provides no guidance for curriculum or program changes to achieve better learning outcomes. Thus, use of the Major Field Test in Business offers only a 'pretend' solution to the problem of Assurance of Learning assessment.

Keywords: Major Field Test in Business, assurance of learning, business school accreditation standards, pretend solutions

INTRODUCTION

Higher education is plagued by numerous problems. Perhaps the most contentious problem is the demand, from various sources, that colleges and universities provide Assurance of Learning (hereafter, AOL) assessments of their students and programs. In response, business schools have adopted a variety of measures to assess student learning. One specific measure, the Major Field Test in Business, (hereafter, MFTB), is widely used to provide independent and direct evidence of students' learning performances vis-à-vis the common body of knowledge expected of all business school graduates. It is also used to compare student learning performance over time and/or relative to business students at all U.S. institutions whose students take the MFTB.

In this paper, we first describe the MFTB and show that it plays an important role in AOL assessment at business schools. Second, we demonstrate that there are critical problems with its use. Finally, we summarize our analysis and conclude that the MFTB offers only a pretend solution to the AOL assessment problem.

ACCREDITATION, AOL ASSESSMENT AND THE MFTB

The MFTB, developed by the Educational Testing Service (hereafter, ETS) in 1990, is a two-hour test consisting of 120 multiple-choice questions, chiefly intended for students in the last year of their undergraduate business program. ETS states that it follows “the general guidelines of business school accrediting agencies ... [and] ... covers areas outlined in statements of the ‘Common Body of Knowledge’ for undergraduate business education.”ⁱⁱ Table 1 shows the specific functional areas covered on the MFTB. The questions are written by experienced business school faculty and then validated by ETS assessment experts who subject each question to rigorous tests of sensitivity and reliability. ETS revises the MFTB approximately every four to five years. The latest test cycle began in September 2010.

Table 1: MFTB Content Area Coverage

Business Area	Approximate Proportion of 120 Questions	Number of Questions (for Group Assessment Only)
Accounting	15 %	18
Economics	13 %	16
Management	15 %	18
Quantitative Business Analysis	11 %	13
Information Systems	10 %	12
Finance	13 %	16
Marketing	13 %	16
Legal and Social Environment	10 %	12
International Issues	(Overlapping and drawn from other content areas above)	12 (drawn from other content areas)

Its use for AOL assessment is accepted by all three major business school accrediting agencies—the Association to Advance Collegiate Schools of Business (AACSB), the Accreditation Council for Business Schools and Programs (ACBSP) and the International Assembly for Collegiate Business Education (IACBE).ⁱⁱⁱ Martell’s survey of AACSB-accredited business schools in 2006 indicated that 46 percent of these schools used the MFTB. In a slightly different survey taken in 2006, Pringle and Michel found that about 30 percent of AACSB-accredited business schools used the MFTB. While there are no published surveys of the use of the MFTB by ACBSP- or IACBE- accredited business schools, ACBSP includes the MFTB among five alternative measures it recommends for external assessment and IACBE illustrates its use in its *Accreditation Process Manual*.

Because these accrediting agencies accept its use in AOL assessment, the MFTB is widely used by their accredited and non-accredited member business schools. From August 2006 to June 2010, 181,488 business students from 685 U.S. business schools took the previous version of the MFTB. From September 2010 to June 2011, 32, 982 business students enrolled at 438 business schools took the current version of the test.

Table 2 indicates that the majority of business schools who used the MFTB are members of one or more of the three business school accrediting agencies. About sixty-six percent of these schools are fully accredited and about seventy-eight percent are members of one or more of these agencies. Furthermore, forty-eight schools that took the 2006-2010 test and forty-one schools that took the 2010-2011 test were members of more than one accrediting agency.

The business schools not affiliated with any of these three accrediting agencies (about 22 percent) used the MFTB for other reasons, including satisfying AOL requirements established by their regional accrediting agencies. For example, Mason et al. (p. 71) note that “In a presentation to ... the institution studied herein, an SACS accreditation representative ... cited the [MFTB] as a content knowledge assessment tool and inquired whether the institution was using it.”

Table 2: Accrediting Agencies, U.S. Business Schools and the MFTB: 2006 – 2011

Accrediting Agency	August 2006 – June 2010		September 2010 – June 2011	
	Accredited	Accredited and non-accredited members	Accredited	Accredited and non-accredited members
AACSB	235	318	143	194
ACBSP	143	183	104	136
IACBE	72	78	40	49
None	----	154	----	100
Total	450	685	287	438

THE MFTB: A ‘PRETEND SOLUTION’ TO THE REAL PROBLEM OF AOL ASSESSMENT

Porter (pp. 113-4) devised the term ‘*pretend solution*’

“ ... to mean a social program that does not work as intended but is not critiqued or reformed because its flaws are hidden. ... The program’s mere existence immunizes policy makers from the need to assess whether the program is an effective solution. ... Similarly, expert participation in crafting a solution creates a powerful assumption from the outset that the program cannot be improved and therefore does not need monitoring and assessment.”

Use of the MFTB meets the criteria for a pretend solution. It has been crafted by experts, has neither been critiqued nor challenged by accrediting agencies or business schools and, as we will show below, does not work as intended. There are three significant flaws with its use for AOL assessment, all of which result from the methods used to calculate and report the MFTB scores.

1. Scaling of the MFTB Scores.

ETS does not report the ‘raw’ scores that would indicate individual or institutional performances on the MFTB. Instead, it converts them into ‘scaled’ scores that are ‘normed’ to the performance of all students who took the same version of the test. These scaled scores range from 120 to 200.

A few studies have pointed out that having access only to these scaled scores poses major problems for AOL assessment. Allen and Bycio (p. 507) comment that

“We would have preferred to examine the overall internal consistency and reliability of responses ... but were unable to do so because the calculation requires the raw ... test scores which ETS does not provide in their examinee reports.”

Similarly, Bandyopadhyay and Rominger (p. 35) state that

“... the MFT does not report the functional area specific scores for each student, so it’s impossible to analyze their strengths and weaknesses in these areas.”

Also, confusion over the construction of these scores can lead to errors in interpreting their usefulness for AOL assessment. For example, Bandyopadhyay and Rominger (p. 35) incorrectly claim that:

“...[it] is ‘normed’—that is, it compares students’ scores only to those of other test takers in that semester. For that reason, we cannot compare how well students performed this semester to how well they performed last semester.”

If this were true, of course, use of the MFTB would be irrelevant for AOL assessment. While we argue below that it is irrelevant for AOL assessment, it is not for this reason. This example, however, indicates the confusion that can arise from the complicated, perhaps, even byzantine, procedure used to derive the scaled scores.

What useful information would a score that denotes a student’s comparative performance on the MFTB provide for AOL assessment? Consider, for example, ETS’s sample individual student report which shows a scaled score of 168 with a standard error of 4.7. ETS explains this score as follows: “If you were to take any number of tests equivalent to the one you have just completed, your score would fall within this range [158 to 177] with a statistical confidence level of 95%.” Using ETS’s Individual Students’ Total Score Distribution, it is then 95% certain that the sample student’s potential performance is somewhere between the 65th and 95th percentile, with the 168 score ranked at the 85th percentile. This wide range tells us very little about the sample student’s comparative level of learning.

More importantly, we know nothing about the sample student’s actual learning performance on the test. Is a scaled score of 168 (85th percentile) indicative of 100 correct answers out of 120 questions? 80 correct answers? 60 correct answers? For his ETS study, Ling had access to the raw scores for the 2002-2006 version of the MFTB. His analysis yields some answers to this conundrum. For the 155, 235 students who took that test, the mean score was

56.92 correct answers out of 118 questions (about 48 percent correct) with a standard deviation of 14.98 correct answers. If the distribution of student scores were approximately normal, the 85th percentile score is 72 correct answers (61 percent correct)—which corresponds to a very low D grade.

When seven functional areas of the exam were graded separately, the mean percent of correct answers across these subsections ranged from 36.5 to 57.6 percent. Thus, the mean ‘grades’ ranged from an abysmal F to almost a D. Obviously, use of the MFTB scaled scores and percentiles effectively hides any information on actual student performance on the test.

2. The Unknown Comparison Group.

A student’s scaled score depends on his/her performance relative to that of all students who took the test. Who are these students? We know from Table 1 that, for the current MFTB, 44 percent of the 438 colleges are members of AACSB, 31 percent are members of ACSBP, 11 percent are members of IACBE and 22 percent are not members of any of these organizations. However, we do not know how the 32,984 students who took the test are distributed across these accrediting agencies. Which students are actually relevant for AOL assessment comparisons for our students? All students? Only those at accredited business schools? Only those at member schools of the same accrediting agency as our business school? Even choosing to compare an institution’s scores only against others accredited by or members of its accrediting agency, however, is problematic if there are considerable quality differences across these institutions. Yunker; Corcoran (2006); and Francisco et al. show such differences for AACSB-accredited institutions.

3. Determinants of Student Performance on MFTB Scores.

However, the problem with using the MFTB scores for AOL assessment goes much further than finding the correct peer group of business schools for comparative analysis. It is necessary to select the correct peer students. A number of studies have examined the determinants of student performance on the MFTB. Table 3, expanded from Bielinsky-Kwapisz et al. (2012a; p. 160), summarizes the results of 17 such studies conducted at 13 universities. The authors rounded up the usual suspects common to virtually all studies of student performance: GPA (overall, in the business core or some variant thereof), ACT or SAT scores (overall, math or verbal), sex, age, major, incentive for performance, transfer or foreign student, etc. GPAs and ACT/SAT scores were significant in the 16 studies that included them. Student incentives to do well had a positive significant impact and majoring in marketing or, to a lesser extent, management generally had a negative impact on MFTB scores in studies that included these variables. The impact of 'sex' and 'age', however, was mixed: sometimes positive, sometimes negative, and, sometimes insignificant. The overall explanatory power of the estimated regression models, measured by the adjusted R^2 , varied considerably (from 11 to 79 percent), as did the sample size (65 to 873 students).

Table 3: Determinants of Student Performance on the MFTB

Authors (Year)	Sample Size	R ² (%)	Significant Variables	Insignificant Variables
Allen and Bycio (1997)	176	57	GPA (business), SAT-V, SAT-M, Incentives	GPA (high school, major, overall), Gender
Bagamery et al. (2005)	169	45	GPA (pre-admission), GPA (business core), SAT dummy, Male (+)	Age, transfer status, major (business vs. accounting), on/off campus student
Barboza and Pesek (2012)	126	62.8	Log GPA, Log SAT(T, M and V), Mngt (-), Mrkt (-), Log Analytical Assignments in Senior Capstone Class	Finance, Economics, Log Writing Assignments Rubric Scores
Bean and Bernardi (2002)	396	29.9	SAT-V, Male (+)	SAT-M
Bielinska-Kwapisz et al. (2012a)	692	50	GPA, ACT, Extra Credit, Mgmt(-), MRKT(-), SEX	
Bielinska-Kwapisz et al. (2012b)	692	41	GPA, ACT, Extra Credit	
Black and Duhon (2003)	297	58	GPA (business core), ACT, Male (+), Age, Mgmt (-)	
Bycio and Allen (2007)	132	68	GPA (business core), SAT-V, self-reported student survey motivational scale	Gender, Major
Contreras et al. (2011)	282	32	GPA, ACT, Age, Acctg (-), Mgmt (-), Mrkt (-), Male (+),	White, Black
Mason et al. (2011)	873	56.5	GPA (business), SAT, Age, Male (+), Asian (-), Acct, Fin, IBS, Econ	Transfer, Black, Hispanic, Am. Indian, Mrkt,TRL, seasonal variables, academic year variables
Mirichandani et al. (2001)	114	65-79	GPA (transfer), SAT, Gender, Grades in business core courses tested in the MFTB.	
Rook and Tanyel (2009)	68	11-16	GPA (business core), GPA (upper-division business),	
Settlage and Settlage (2011)	229	50.9	GPA (business), ACT, Male (+), Mrkt (-), BusAd (-)	Age, Change in MFTB
Terry et al. (2008)	150	44.7	GPA, ACT, Extra Credit,	Transfer, Foreign, Gender
Terry et al. (2009)	136	46.6	GPA, ACT, Grade Incentives	Transfer, Foreign, Gender
Terry et al. (2010)	174	48.6	GPA, ACT, Grade Incentives, Foreign	Transfer, Gender
Zeis et al. (2009)	190	48.9	GPA, ACT, AGE, Male (-)	Hispanic

These studies show that individual and institutional MFTB scores are significantly influenced by specific student characteristics. Consequently, use of these scores for AOL assessment requires detailed analysis of these characteristics. Bush et al. (p. 81), state that

“When interpreting MFTB results, it is important to recognize the uniqueness of your school, students and/or curriculum. ... [Differences across students or institutions in a wide-variety of factors] ... alone or combined could contribute to or confound test results.”

Similarly, Bielinska-Kwapisz et al. (2012a, pp. 159, 164-5) note that

“... there is an irresistible desire to benchmark against other business programs. However, a comparison ...of MFT-B scores, within and across different student cohorts, can only be truly meaningful if student characteristics ... are taken into account.”

.....

“The nonavailability of detailed information regarding business student characteristics makes comparisons across institutions very unlikely”

Unfortunately, because of the manner in which the MFTB scores are constructed, their use for AOL assessment makes comparisons across institutions inevitable and meaningless. Of course, using the raw scores for such comparisons without adjusting for student characteristics would create the same problem.

Table 4 provides two examples that demonstrate how determinants of student performance can confound the use of MFTB scores for student learning assessment. It shows institutional MFTB percentile scores for the University of Arkansas, Fort Smith (Settlage and Settlage, p. 276) and the Virginia Military Institute (Bush et al., p. 78) for selected periods.

Table 4: A Tale of Two Business Schools and the Puzzling Declines in Their MFTB Scores

Institutional MFTB Percentile Results			
University of Arkansas, Fort Smith		Virginia Military Institute	
Semester	Percentile	Year	Percentile
Spring 2006	95	1998	87
Summer 2006	65	1999	74
Fall 2006	85	2000	80
Spring 2007	80	2001	92
Summer 2007	80	2002	48
Fall 2007	85	2003	93
Spring 2008	85	2004	93
Fall 2008	55	2005	94

When Settlage and Settlage analyzed the sharp decline in student scores in Fall 2008 at the University of Arkansas, Fort Smith, they could not find any statistical difference in the impact of the general characteristics of that student cohort compared to those who took the exam previously. Instead, it appears that students who took the Fall 2008 MFTB were just randomly over-represented by those with lower ACT scores and GPAs and/or a greater proportion of business administration and marketing majors.

At VMI, Bush et al. (p. 82) attributed the ‘Crash of 2002’ to

“... low motivation born of inconsistent administration. Despite standing policies, the MFTB was worth only 10% of the Business Policy final grade that year, and the instructor promised no one would score lower than a C Some students sought high scores; others filled their answer sheets with *interesting* patterns and left early.”

The problem was due to one instructor’s failure to properly ‘incentivize’ the students who were taking the test, not to a serious decline in student learning.

Similar analyses of *increases* in students’ or institutions’ MFTB percentile scores over time might just as easily yield similar conclusions about the impact of student characteristics.

However, we suspect that business schools will interpret such increases as evidence of

improvements in student learning. The use of MFTB scores in the context of AOL assessment is fraught with considerable uncertainty unless the influence of the determinants of student performance is explicitly taken into account.

SUMMARY AND CONCLUSIONS

AOL assessment is a process that requires at least two different components. First, it should provide valid information about current student learning performance, i.e., answer the question “what do they know now?” Second, it should provide some insight into changes in course content, programs and curriculum that will increase student learning in the future—the ubiquitous “continuous improvement” and “closing the loop” efforts.

Unfortunately, the MFTB cannot be used for either of these purposes. Its test results are scored and reported in a manner that makes it impossible to determine how well business students have actually learned the common body knowledge expected of business graduates. Comparisons of MFTB performances either across time or across institutions are invalid because the test results are significantly driven by individual student characteristics of an unknown (and unknowable) group of students enrolled at diverse non-random business schools.

For these reasons, the MFTB scores should not be used to assess student learning or to justify course or curriculum changes. Thus, the MFTB offers only a pretend solution to the assessment of student learning in business. Those seeking real solutions to the AOL assessment problem should look elsewhere.

NOTES

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ⁱⁱ A general discussion of the MFTB can be found at http://www.ets.org/Media/Tests/MFT/pdf/mft_testdesc_business_4cmf.pdf .]

ⁱⁱⁱ Henninger; and, Caldwell, Jr. et al. compare AACSB and ACBSP accreditation standards; Roller et al.; Julian and Ofori-Dankwa; and Corcoran (2007) discuss those for AACSB, ACBSP and IACBE.

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