

# THE TESTING COLUMN

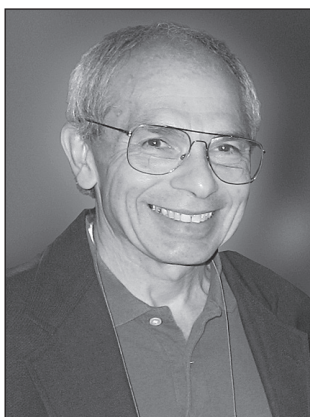
## SPEED (NOT THE DRUG, AND IT DOES NOT KILL, BUT IT CAN CAUSE STRESS)

*by Mark A. Albanese, Ph.D.*

In testing, speed refers to the extent to which examinees have the time to finish the examination without being unduly hurried. Tests are generally classified as being speeded if time is considered to be relevant to the skill being assessed, and such tests are designed so that not all examinees (or maybe any) will be able to complete all items in the time allotted. A typing test is a good example of a speeded test. There is always more text than the typist could possibly hope to type in the allotted time. The point is to determine how many words the typist can type per minute and with how many errors.

For the most part, licensing tests like the MBE and MPRE are not designed to be speeded. This puts them into a category called a power test. The goal is to see whether the examinee has the requisite skill to complete the examination within reasonable time limits.

The generally accepted rule is that a test is speeded if more than 10% of the examinees fail to reach the last item.<sup>1</sup> There are other definitions as well. The Educational Testing Service (ETS) has adopted a guideline whereby a test is considered speeded if 1) fewer than 100% of the examinees



reach 75% of the test items and 2) fewer than 80% of the examinees finish 100% of the test.<sup>2</sup>

For the most part, the ETS rule is more lax than the 10% rule generally adopted. However, there are other indicators of speededness that are sometimes considered, such as whether examinees give the same response to the last items on the test (e.g., an examinee selects the first option, A, for the last five items on the test). In testing, a sequence of consecutive items is called a string, and if option A is selected for the last five items, that sequence would be called a five-item string A. This is sometimes referred to as a straight-line answer pattern because examinees sometimes just draw a straight line between the bubbles on the answer sheet. Another indicator of speededness that is sometimes considered is whether performance on the last items on the test deteriorates, meaning that the percent correct on the last items of the test is lower than the percent correct on the first items of the test.

In this article, I will show some data related to each of these indicators of speededness for the MBE. If you have any fear that the MBE is speeded, I hope that these data will put you at ease.

## PERCENTAGE OF EXAMINEES WHO FAILED TO REACH THE LAST ITEM

Table 1 shows the number and percentage of examinees who failed to reach the final item on the MBE over the last 10 years for February and July as well as morning and afternoon test sessions. Not only did none of the MBE examinee groups reach the 10% threshold for speededness, they did not reach even one-tenth of that value (1%). By the traditional definition of speededness, the MBE is clearly not a speeded examination.

## PERCENTAGE OF EXAMINEES WHO STRAIGHT-LINED AT LEAST FIVE ITEMS

Next we examined whether there were strings of five or more items at the end that were given the same response. Table 2 shows that the maximum percentage of examinees who straight-lined answers

to a string of at least five items never exceeded 3.4% across the last 10 years, either in February or July or morning or afternoon test sessions. Thus, even using this expanded definition of what constitutes speededness, the MBE data did not reach the traditional criterion of 10%.

## PERCENTAGE OF EXAMINEES WHO FAILED TO REACH THE LAST ITEM OR WHO STRAIGHT-LINED THE LAST FIVE OR MORE ITEMS

Finally, we looked at the combined total of examinees who *either* failed to reach the final item or produced a straight-line answer pattern, the results of which are presented in Table 3. The maximum ever reached was less than 4%. Thus, even expanding the definition and combining results from two indicators, the percentage never came close to meeting the 10% criterion.

**Table 1:** Number and Percentage of Examinees Failing to Reach the Final Item (Traditional Indicator of Speededness)

YEAR	FEBRUARY					JULY				
	Total Number of Examinees	Morning		Afternoon		Total Number of Examinees	Morning		Afternoon	
		Count	Percent	Count	Percent		Count	Percent	Count	Percent
2005	21,265	180	0.85	39	0.18	49,998	175	0.35	119	0.24
2006	22,824	183	0.80	30	0.13	51,176	241	0.47	121	0.24
2007	22,250	191	0.86	32	0.14	50,181	256	0.51	39	0.08
2008	20,822	97	0.47	50	0.24	50,011	231	0.46	105	0.21
2009	18,868	119	0.63	30	0.16	50,385	326	0.65	77	0.15
2010	19,504	160	0.82	53	0.27	50,114	300	0.60	82	0.16
2011	20,369	160	0.79	24	0.12	49,933	184	0.37	61	0.12
2012	20,695	145	0.70	36	0.17	52,337	301	0.58	104	0.20
2013	21,578	101	0.47	65	0.30	53,706	412	0.77	48	0.09
2014	22,083	140	0.63	60	0.27	51,005	301	0.59	64	0.13
10-year maximum		191	0.86	65	0.30		412	0.77	121	0.24

**Table 2:** Number and Percentage of Examinees Having a String of Five or More Items with the Same Response at the End

YEAR	FEBRUARY					JULY				
	Total Number of Examinees	Morning		Afternoon		Total Number of Examinees	Morning		Afternoon	
		Count	Percent	Count	Percent		Count	Percent	Count	Percent
2005	21,265	450	2.12	264	1.24	49,998	503	1.01	417	0.83
2006	22,824	353	1.55	245	1.07	51,176	497	0.97	339	0.66
2007	22,250	467	2.10	156	0.70	50,181	623	1.24	444	0.88
2008	20,822	297	1.43	187	0.90	50,011	651	1.30	352	0.70
2009	18,868	530	2.81	164	0.87	50,385	717	1.42	211	0.42
2010	19,504	658	3.37	233	1.19	50,114	558	1.11	405	0.81
2011	20,369	510	2.50	313	1.54	49,933	426	0.85	281	0.56
2012	20,695	374	1.81	167	0.81	52,337	673	1.29	433	0.83
2013	21,578	400	1.85	350	1.62	53,706	869	1.62	122	0.23
2014	22,083	369	1.67	376	1.70	51,005	719	1.41	340	0.67
10-year maximum		658	3.37	376	1.70		869	1.62	444	0.88

**Table 3:** Number and Percentage of Examinees Failing to Reach the Final Item or Having a String of Five or More Items with the Same Response at the End

YEAR	FEBRUARY					JULY				
	Total Number of Examinees	Morning		Afternoon		Total Number of Examinees	Morning		Afternoon	
		Count	Percent	Count	Percent		Count	Percent	Count	Percent
2005	21,265	576	2.71	297	1.40	49,998	640	1.28	513	1.03
2006	22,824	503	2.20	266	1.17	51,176	690	1.35	436	0.85
2007	22,250	603	2.71	181	0.81	50,181	806	1.61	476	0.95
2008	20,822	378	1.82	225	1.08	50,011	811	1.62	447	0.89
2009	18,868	613	3.25	192	1.02	50,385	966	1.92	275	0.55
2010	19,504	776	3.98	279	1.43	50,114	801	1.60	478	0.95
2011	20,369	625	3.07	335	1.64	49,933	570	1.14	330	0.66
2012	20,695	493	2.38	199	0.96	52,337	893	1.71	523	1.00
2013	21,578	475	2.20	406	1.88	53,706	1,217	2.27	162	0.30
2014	22,083	476	2.16	422	1.91	51,005	948	1.86	390	0.76
10-year maximum		776	3.98	422	1.91		1,217	2.27	523	1.30

## PERFORMANCE ON THE FIRST 10 VERSUS THE LAST 10 ITEMS

Taking our analysis to the next level, we examined whether performance deteriorated at the end of the examination compared to the beginning. This comparison is somewhat problematic, because fatigue can be an alternative explanation to speededness for a performance decrease. Further, there is no good way to equate individual items, so the intrinsic difficulty of the items could be different. However, in spite of these problems, we computed the average percent correct on the first 10 items and the last 10 items on the February and July 2014 examinations.

In July 2014, the mean percent correct on the last 10 items was 4% lower than for the first 10 items. In February 2014, the performance on the last 10 items was actually 2% higher than on the first 10 items. Even if we use the 4% reduction in performance in July as the best estimate of performance on the last 10 items, this amount is well within the variation in average difficulty we see between items on the examination. If we couple this with the potential for fatigue to be a competing explanation for the decline in performance, the amount does not reach levels that are considered problematic.

## EXPECTED READING RATE AND LEVEL

A few other statistics from the February and July 2014 MBEs might also be helpful. The amount of time allowed for the MBE requires that examinees read at an average rate of 92 to 95 words per minute. To provide a context for interpreting how demanding this reading rate might be, one study that determined the optimal silent reading rate for different grade levels listed a rate of 114 words per minute as being optimal for the second grade (8-year-olds).<sup>3</sup>

We also computed two indexes of the complexity of the language used on the examinations and expressed the result as a grade level. (Many indexes have been developed to try to measure the readability of English writing. They examine such things as the ratio of “complex words” to “simple words” and the average length of sentences within a passage. The indexes differ in terms of the factors they include, the constants they include in the formula used to estimate reading level, the scale on which they report reading level, and precise rules for whether particular kinds of words, such as proper nouns or compound words, should be included in the calculations. But the indexes are similar in terms of all attempting to represent text complexity in terms of the grade level at which students would likely be able to understand the passage.)

The two indexes examined different aspects of the prose and gave fairly different results. The first index indicated that the average grade level of the language used on the 2014 MBEs was between 10.55 and 10.59, midway of the tenth grade in high school. The other index put the language level at between 13.31 and 13.37, which would be early in the second year of college. Either way, the language level of the MBE is well within what should be expected of graduating law students.

## CONCLUSION

In summary, we have no reason to believe that the MBE is a speeded examination, whether we examine failure to reach the final item, straight-line answers, or declines in performance on items at the end compared to those in the beginning. None of the indexes assessing patterns at the end of the exam reach anywhere near the 10% level traditionally used to define a test as speeded. Comparisons of the percent correct on the last 10 items versus the first 10 items for the 2014 examinations found at most

a 4% reduction in performance in July, but that is counterbalanced by a 2% increase in February. The reading rate required to complete the MBE in the time allotted is less than 100 words per minute, a rate that would be expected of students somewhere between the first and second grades.<sup>4</sup> Finally, the language used on the examination is well within the education level that should be expected of graduating law students, being at the most targeted at the second year of college. If you are still concerned that the MBE is a speeded examination—well, maybe not everyone should be a lawyer. 📖

### ACKNOWLEDGMENTS

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### NOTES

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2. S. Ellerin-Rindler, *Pitfalls in Assessing Test Speededness*, 3 J. EDUC. MEAS. 261–270 (1979).
3. J. Hasbrouck & G.A. Tindal, *Oral Reading Fluency Norms: A Valuable Assessment Tool for Teaching Teachers*, 59 READING TEACHER 636–644 (2006).
4. *Id.*

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