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THE AMERICAN INSTITUTE OF ACCOUNTANTS
COLLEGE ACCOUNTING TESTING PROGRAM

Bulletin No. 13

RESULTS OF
THE FALL, 1951, COLLEGE ACCOUNTING TESTING PROGRAM

Prepared by
Committee on Selection of Personnel
21 Audubon Avenue
New York 32, N. Y.
January, 1952

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CONTENTS

	Page
I. INTRODUCTION	1
II. SUMMARY OF TEST RESULTS	3
III. REQUIRED VS. VOLUNTARY STUDENT PARTICIPATION IN THE COLLEGE ACCOUNTING TESTING PROGRAM	11

INTRODUCTION

Seventy-four colleges participated in the sixth annual fall accounting testing program. The total number of tests administered was 8,406.

The number of participating colleges was smaller than the number in 1949 and 1950 although larger than in 1946, 1947, and 1948.

In the fall of 1950, ninety-eight colleges administered a total of 13,362 tests. The decrease in number of tests given this fall as compared with last fall was 4,956, or 37 per cent. The decrease is accounted for in part by the smaller number of participating colleges and by smaller college enrollments. It may also be due partly to a requirement that all tests be scored in the project office and to an increase in the scoring and reporting charge from twenty-five cents to thirty-five cents a test. In past fall programs, local scoring, with a charge of fifteen cents for the use of the test materials, had accounted for a considerable proportion of the participation. Local scoring was found to be somewhat unsatisfactory because of inaccuracies in scoring in some places with the consequent necessity of rescoring the papers in the project office before the results could be used in the norms.

Although the volume of the current program was substantially smaller than the total volume in the fall of 1950, which included locally scored tests, the number of tests scored and reported in the project office this fall was not greatly smaller than the number last fall. Rapid scoring service was maintained throughout the program. On the average, reports consisting of distributions of scores and lists showing scores and percentile ranks of individual students were mailed within six days from the time the answer sheets were received for scoring.

The seventy-four colleges listed as participating in this fall's program included twelve colleges whose results were not used in the norms because they tested outside the recommended period or used forms of the tests other than those recommended. Of the seventy-four colleges, sixty had taken part in earlier programs and twelve were new participants.

As in past fall programs, the Orientation Test was stressed, and most of the participation was based on this test. The Orientation Test was given by sixty-three colleges, whereas only fifteen colleges used Achievement Test, Level I, fifteen administered Achievement Test, Level II, and ten gave the Strong Vocational Interest Blank. The numbers of the different kinds of tests administered were as follows: Orientation Test, 7,221; Achievement Test, Level I, 430; Achievement Test, Level II, 161; Strong blank, 594.

In view of the current manpower shortage, interest in the use of the accounting tests for employment purposes has naturally declined. On the other hand, the values of the tests for purposes of selection and guidance in the colleges are unimpaired by present employment conditions. In fact, these values may be enhanced, for, since almost any college graduate with a major in accounting can now find a position, special responsibility rests with the colleges for making sure that only individuals with the requisite abilities and preparation are made available for employment. The consistent use of the Orientation Test each fall by a considerable number of institutions is evidence

of recognition of the usefulness of this test in guidance at the college level.

A general statistical summary of the results of the Orientation Test and Achievement Tests is shown in Section II of the present bulletin. Some evidence with regard to whether participation was required of students or was placed on a voluntary basis is given in Section III.

In the bulletins summarizing preceding fall and spring accounting testing programs, comparative charts showing under code numbers the distributions of scores for individual colleges were presented. Replies to a recent questionnaire submitted to colleges by the Committee on Selection of Personnel of the American Accounting Association indicated that a considerable number of colleges felt that various non-comparable factors limited the values of these charts and that they might on occasion be misleading. For this reason, the comparative charts have been eliminated from the present bulletin. However, distributions of median scores of the different college classes are shown in connection with the general summary in Section II, and the project office will on request send to any participating college a specially marked copy of the bulletin showing the placement of its medians in these distributions.

II

SUMMARY OF TEST RESULTS

Distributions of the scores of college students on the Orientation Test and the Achievement Tests are shown in Tables I through V. The first three tables are concerned with the Orientation Test, Form C.

The first table shows the distributions of the scores of individual students and of the median scores of college classes on the verbal part of the Orientation Test. The test was administered to 5,674 first-year accounting students in fifty-three colleges, to 138 second-year students in eight colleges, to eighty-two third-year students in five colleges, and to 158 accounting seniors in seven colleges. The portion of the table showing the distributions of college medians may be read as follows: at the first-year level the median for one college fell within the range 57 to 59; the medians for two colleges were in the range 33 to 35; the medians of seven colleges were in the interval 30 to 32; and so forth.

The distributions of the scores of individual students and of the median scores of college classes on the quantitative portion of the Orientation Test are shown in Table II, and the distributions of individual total scores and of median total scores are given in Table III. The range of median scores of class groups is naturally considerably smaller than the range of the scores of the individual students.

The dotted and broken lines across the distribution columns for the Orientation Test show graphically the medians obtained in the fall of 1949 on the same form of the Orientation Test except in the case of the senior group, where the medians resulting from the 1951 midyear testing program were the most appropriate ones for comparison with this fall's results. The medians for the current groups are shown by the short horizontal lines adjacent to the distributions, and the range of the middle 50 per cent of the cases is shown in each instance by a vertical line parallel to the distribution.

It will be observed that except in the case of the third-year group this fall's medians are a little lower than the earlier ones. In the upper classes, the groups are too small for valid comparisons with preceding results, but at the first-year level comparisons can be made with considerable dependability, since more than fifty colleges and over five thousand students are represented in the fall, 1951, distributions and even larger numbers were included in the fall, 1949, results. This fall's verbal median for the first-year students falls about one and one-half raw score points below the corresponding median obtained in 1949; the quantitative median is a fraction of a point below the 1949 median; and the total score median is a little less than two points below the one obtained two years ago. The slightly lower medians this fall may result to some extent from the fact that the two groups of colleges were not exactly the same, although it seems likely that falling college enrollments may be causing some schools of business to be a little less selective than they were in the years immediately following the war when students were clamoring for admission to college.

Although the median scores on the Orientation Test increased significantly from the first year to the second and from the second year to the third, there is as usual great overlapping in the distributions. In fact, the distributions for the large group of first-year students in each part of the Orientation Test and in total score completely overlap the distributions for the smaller groups of upper classmen. Both the highest and the lowest scores were obtained by students in the first-year group. Since the Orientation Test is designed as a test of ability rather than achievement or knowledge of accounting and in view of the fact that the first-year group is many times the size of the upper-class groups taking this test, it is not surprising that a few students at the first-year level exceeded in score all the students in the more advanced classes.

Distributions of scores obtained by first-year accounting students in four colleges and by second-year students in six colleges on Achievement Test, Level I, Form B, are shown in Table IV. For comparative purposes, combined medians based on the use of the same form of the Achievement Test in the fall programs of 1947, 1948, and 1949 are shown by the dotted lines on the distribution sheets. On the average, this year's groups exceed the medians for the earlier programs. There is no significant difference between the medians for the first- and second-year students obtained this fall. However, the fact that only a few colleges and a small number of students are represented in these results makes group comparisons of little value.

It was not expected that Achievement Test, Level II, would be used this fall except in rare instances, since the midyear and spring programs are ordinarily the preferred times for the measurement of the achievement of seniors. Sixty-two seniors divided among five colleges took Achievement Test, Level II, Form C, in the fall program. The distributions of the scores of individual students and the medians of individual colleges are shown in Table V.

Notwithstanding the small size of the group, the distribution of the raw scores of the sixty-two seniors is very wide. The raw scores range from 1 to 47, out of a possible fifty-seven points for a perfect score. It seems probable that a carefully planned guidance program in the earlier years would avoid allowing some of the lower scoring students to reach the senior level of study in accounting.

TABLE I

ORIENTATION TEST, FORM C,
 VERBAL SCORES OF INDIVIDUAL STUDENTS AND
 MEDIAN VERBAL SCORES OF INDIVIDUAL COLLEGES
 FALL, 1951

V E R B A L S C O R E S									
Scores of Individual Students					Median Scores of Individual Colleges				
Score	1st year	2nd year	3rd year	Senior	Score	1st year	2nd year	3rd year	Senior
99-100					99-100				
96					96				
93					93				
90					90				
87					87				
84					84				
81	1				81				
78	1				78				
75	2				75				
72					72				
69	1	1			69				
66					66				
63	1	1			63				
60	7			3	60				
57	7	3		3	57	1			
54	13	1	1	3	54				
51	20	1	4	12	51				
48	50	1	5	11	48				
45	89	3	8	15	45			1	1
42	140	12	7	10	42				
39	212	15	15	19	39			2	3
36	360	8	8	16	36		2	2	1
33	472	16	8	23	33	2	1		1
30	586	18	8	9	30	7	2		
27	643	15	5	12	27	9			
24	687	12	10	9	24	12	2		1
21	689	9		9	21	13	1		
18	578	10	3	2	18	7			
15	448	7		1	15	2			
12	337	3			12				
9	180			1	9				
6	94	1			6				
3	43	1			3				
0-2	13				0-2				
Total	5674	138	82	158	Total	53	8	5	7
Q3	32.8	39.7	43.9	46.5	Q3	28.9			
Md	26.0	31.8	38.6	38.1	Md	25.1	31.5	39.8	39.5
Q1	19.6	24.9	30.9	31.8	Q1	22.0			
Range	0-82	5-70	18-56	11-60	Range	16.9- 57.0	21.5- 38.5	36.0- 45.0	24.0- 46.5
10 %ile	14.1	18.5	25.6	24.9					
90 %ile	38.8	44.3	49.1	52.3					

..... Median, First Year, Fall, 1949

----- Median, Second and Third Years Combined, Fall, 1949

----- Median, February and June Graduates Combined, Midyear, 1951

TABLE II

ORIENTATION TEST, FORM C,
 QUANTITATIVE SCORES OF INDIVIDUAL STUDENTS AND
 MEDIAN QUANTITATIVE SCORES OF INDIVIDUAL COLLEGES
 FALL, 1951

Q U A N T I T A T I V E S C O R E S									
Scores of Individual Students					Median Scores of Individual Colleges				
Score	1st year	2nd year	3rd year	Senior	Score	1st year	2nd year	3rd year	Senior
30	1				30				
29		1	1		29				
28	4			1	28				
27	4		2	1	27				
26	14	1	3	2	26				
25	16		2	5	25				
24	25	4		9	24				
23	52	3		8	23				
22	52	5	3	6	22				
21	87	3	2	3	21				
20	125	9	8	6	20	1		1	
19	134	4	5	15	19		1		2
18	235	9	8	12	18			1	2
17	220	6	4	11	17	1	1		
16	254	8	5	9	16	1			1
15	280	5	4	13	15	1		1	
14	327	8	6	8	14	4	1	1	1
13	384	9	4	11	13	6	2	1	
12	386	7	4	3	12	7			
11	395	11	2	5	11	10	1		
10	412	13	2	10	10	6	1		1
9	402	7	6	2	9	8	1		
8	355	4	6	4	8	2			
7	349	9	2	4	7	5			
6	285	4		3	6	1			
5	234	2		2	5				
4	194	4		2	4				
3	183		1	2	3				
2	109		1	3	2				
1	90	1			1				
0	66	1			0				
Total	5674	138	82	158	Total	53	8	5	7
Q3	15.3	18.5	20.1	20.3	Q3	13.1			
Md	11.4	13.7	16.4	17.0	Md	11.5	13.5	15.5	18.3
Q1	7.7	10.2	11.8	13.1	Q1	9.7			
Range	0-30	0-29	1-29	3-28	Range	6.3- 20.5	9.5- 19.5	13.5- 20.7	10.0- 19.5
10 %ile	4.6	7.2	8.5	8.5					
90 %ile	18.8	22.0	22.9	24.2					

..... Median, First Year, Fall, 1949

----- Median, Second and Third Years Combined, Fall, 1949

----- Median, February and June Graduates Combined, Midyear, 1951

TABLE III

ORIENTATION TEST, FORM C,
TOTAL SCORES OF INDIVIDUAL STUDENTS AND
MEDIAN TOTAL SCORES OF INDIVIDUAL COLLEGES
FALL, 1951

TOTAL SCORES									
Scores of Individual Students					Median Scores of Individual Colleges				
Score	1st year	2nd year	3rd year	Senior	Score	1st year	2nd year	3rd year	Senior
128-130					128-130				
124					124				
120					120				
116					116				
112					112				
108					108				
104					104				
100	3				100				
96					96				
92	1				92				
88	1	1			88				
84	4	1		1	84				
80	4	3		2	80				
76	10		3	9	76	1			
72	23	3	4	5	72				
68	46	2	2	12	68				
64	68	5	6	17	64			1	
60	109	10	11	15	60				2
56	204	7	10	14	56			1	2
52	330	9	10	16	52		1	2	1
48	393	15	7	21	48	2	2	1	1
44	522	14	11	7	44	5	1		
40	610	19	5	10	40	9	1		
36	690	12	5	13	36	13	1		
32	679	13	6	8	32	8	1		1
28	581	9		6	28	10	1		
24	515	6	2	1	24	5			
20	384	4			20				
16	248	3		1	16				
12	152	1			12				
8	69				8				
4	24	1			4				
0-3	4				0-3				
Total	5674	138	82	158	Total	53	8	5	7
Q3	46.3	54.9	62.0	65.5	Q3	41.7			
Md	37.0	44.3	54.0	55.0	Md	37.1	44.0	55.0	57.0
Q1	28.2	35.2	44.9	44.3	Q1	31.3			
Range	0-102	5-88	27-79	18-84	Range	24.0-78.0	30.0-52.0	50.8-64.0	34.0-62.0
10 %ile	20.7	27.2	36.2	35.9					
90 %ile	54.9	65.0	69.6	73.0					

..... Median, First Year, Fall, 1949

----- Median, Second and Third Years Combined, Fall, 1949

- - - - - Median, February and June Graduates Combined, Midyear, 1951

TABLE IV

ACHIEVEMENT TEST, LEVEL I, FORM B,
 TOTAL SCORES OF INDIVIDUAL STUDENTS AND
 MEDIAN TOTAL SCORES OF INDIVIDUAL COLLEGES
 FALL, 1951

Scores of Individual Students			Median Scores of Individual Colleges		
Score	1st year	2nd year	Score	1st year	2nd year
176			176		
172			172		
168			168		
164			164		
160	1		160		
156			156		
152	1	1	152		
148		2	148		
144	1	2	144		
140	1	2	140		
136	2	5	136		
132	2	4	132		
128	4	5	128		
124	3	1	124		
120	7	5	120		
116	4	6	116		
112	5	8	112		
108	8	5	108		1
104	5	13	104		2
100	6	7	100	1	2
96	12	13	96	1	—
92	5	14	92	1	2
88	15	8	88		1
84	5	5	84	1	
80	4	8	80		
76	5	5	76		
72	7	9	72		
68	3	1	68		
64	4	3	64		
60	1	4	60		
56	2	2	56		
52	2	3	52		
48	1		48		
44	1	1	44		
40		2	40		
36	1		36		
32			32		
28		1	28		
24			24		
20			20		
16			16		
12			12		
8			8		
4			4		
0-3			0-3		
Total	118	145	Total	4	6
Q3	113.2	114.4			
Md	97.0	98.0	Md		98.0
Q1	82.5	82.6			
Range	39-163	31-155	Range	85.3-102.0	90.0-111.0
10 %ile	67.8	66.0			
90 %ile	128.2	133.5			

..... Medians, Combined Fall Programs, 1947, 1948, 1949

TABLE V

ACHIEVEMENT TEST, LEVEL II, FORM C,
 TOTAL SCORES OF INDIVIDUAL STUDENTS AND
 MEDIAN TOTAL SCORES OF INDIVIDUAL COLLEGES
 FALL, 1951

Scores of Individual Students		Median Scores of Individual Colleges	
Score	Seniors	Score	Seniors
56		56	
54		54	
52		52	
50		50	
48		48	
46	1	46	
44	2	44	
42	1	42	
40	1	40	
38	2	38	
36		36	
34	4	34	
32	2	32	
30	2	30	
28	3	28	1
26	3	26	
24		24	
22	3	22	1
20	5	20	
18	6	18	1
16	11	16	1
14	5	14	
12	1	12	
10	2	10	
8		8	
6	4	6	1
4	1	4	
2	2	2	
0-1	1	0-1	
Total	62	Total	5
Q3	29.7		
Md	19.3	Md	19.0
Q1	15.8		
Range	1-47	Range	6.7-29.0
10 %ile	7.1		
90 %ile	38.8		

..... Median, March 1949

III

REQUIRED VS. VOLUNTARY STUDENT PARTICIPATION IN THE COLLEGE ACCOUNTING TESTING PROGRAM

Perhaps no question about the College Accounting Testing Program is more frequently raised than that of required or voluntary student participation. It is often pointed out that, if some colleges require all their students at appropriate levels of study to take the accounting tests while other colleges place the tests on a voluntary basis, comparisons among colleges may be subject to considerable error. It is also feared that a large amount of voluntary participation will make the percentile norms unreliable. The objection to voluntary participation grows out of the assumption that where students are free to decide whether or not to take a test the better students are the ones who will elect to take it.

In institutions where the cost of the tests is borne by the colleges, students are not likely to object to a requirement that they take the tests. In colleges where the students are charged a fee for the testing costs, however, required participation may not readily be accepted. Consequently, some colleges that take part in the program but that are not in a position to cover the cost of the tests from their regular budgets have hesitated to tell their accounting students that they must take the tests and pay a required fee.

As a part of its routine in reporting test results, the project office sends with each report a reply card on which the college is asked to state whether participation was required or voluntary and what per cent of the students in total class groups were tested and to indicate whether the students tested were a representative sample of the entire group of accounting students at that college. The project office has customarily included in the norms only the results from those colleges that required the tests or that stated that the students tested on a voluntary basis were representative of their entire group. Most colleges making the tests voluntary have estimated that the group tested was a fair sampling of all their accounting students, but the idea has persisted that in many instances the volunteers are above average.

From time to time, the reply cards have been analyzed in order to discover trends. For instance, information obtained from forty-five colleges using the Level II Achievement Test in the spring, 1949, program indicated that twenty-six, or 57 per cent, required their students to take the tests and that nineteen colleges, or 43 per cent, placed the tests on a voluntary basis. Of these nineteen colleges, twelve, or 63 per cent, were of the opinion that the results for their student groups were representative of the accounting achievement of the entire group of their seniors. One college estimated that the results for their students were too high, and one estimated that they were too low. Five colleges did not comment on this question. These data indicated that in more than 80 per cent of the colleges the testing was believed to be representative of the achievement of the seniors.¹

In order to provide some further evidence on the question, an analysis was made of voluntary and required participation in the fall, 1951, testing program

¹Arthur E. Traxler, "The College Testing Program for Accounting Students," The New York Certified Public Accountant, XIX (June, 1949), 351-63.

so far as the Orientation Test was concerned. Of fifty-three colleges administering the Orientation Test to their students, thirty-four, or approximately 65 per cent, stated that their students were required to take the test, eight colleges, or 15 per cent, said that it was placed on a voluntary basis, and eleven institutions, or a little more than 20 per cent, did not reply to the question.

It is evident that more than four times as many colleges stated that the test was required as stated that it was made voluntary for their students. Even if one were to make the unlikely assumption that all the colleges that did not reply were in the voluntary group, nevertheless it is evident that nearly two-thirds of the colleges placed the test on a required basis.

Although the number of colleges definitely identified as making the test voluntary for their students is small, their results may, nevertheless, have some effect upon the norms if the scores of their groups tend to be greatly above those in the colleges requiring participation. Some evidence on the question of differences between these two groups of colleges is provided in Table VI, which shows the median total scores made on the Orientation Test in colleges requiring the test, in colleges placing it on a voluntary basis, and in a group of colleges that did not reply to the question.

The median of the medians for the voluntary group is consistently above that for the required group in verbal, quantitative, and total score. The "no reply" group is also slightly above the required group. However, the differences are not large, and there is much overlapping in the distributions. Some colleges in the voluntary group as well as in the required group have comparatively low medians. There is one outstanding exception where a college in the voluntary group has unusually high medians for verbal, quantitative, and total scores. This college indicated on the reply card that the students who volunteered to take the Orientation Test in this program were "comparatively high." However, other evidence indicates that this is an institution which enrolls students of high ability, and it seems probable that even if their entire group had been tested they would have done well with the Orientation Test.

In view of the fact that the group of colleges placing the test on a voluntary basis was relatively small and that this group was, on the whole, not markedly above the group requiring their students to take the test, it seems unlikely that voluntary participation appreciably affected the norms for the Orientation Test in the 1951 fall testing program. A similar analysis for the Achievement Tests in the spring program might be of interest and value.

TABLE VI

MEDIAN TOTAL SCORES MADE ON THE ORIENTATION TEST
BY INDIVIDUAL COLLEGES DISTRIBUTED ACCORDING TO WHETHER
PARTICIPATION BY THEIR STUDENTS WAS REQUIRED OR VOLUNTARY

VERBAL				QUANTITATIVE				TOTAL			
Score	Re- quired	Vol- untary	No Reply	Score	Re- quired	Vol- untary	No Reply	Score	Re- quired	Vol- untary	No Reply
99-100								128-30			
96								124			
93								120			
90				30				116			
87				29				112			
84				28				108			
81				27				104			
78				26				100			
75				25				96			
72				24				92			
69				23				88			
66				22				84			
63				21				80			
60				20		1*		76		1*	
57		1*		19				72			
54				18				68			
51				17		1		64			
48				16		1		60			
45				15	1			56			
42				14	2		2	52			
39				13	5	1		48			
36				12	4		3	44		2	
33		2		11	7	1	2	40	3	1	1
30	5	1	1	10	2	2	2	36	7		2
27	8		1	9	8			32	7	1	5
24	4	2	6	8	2			28	5	2	1
21	11	1	1	7	2	1	2	24	9	1	
18	5	1	1	6	1			20	3		2
15	1	1	1	5				16			
12				4				12			
9				3				8			
6				2				4			
3				1				0-3			
0-2				0							
Total	34	8	11	Total	34	8	11	Total	34	8	11
Md	24.0	28.5	25.3	Md	11.3	12.5	11.8	Md	36.0	42.0	38.0
Range	16.9- 32.0	20.0- 57.0	17.4- 31.0	Range	6.3- 15.3	7.8- 20.5	7.8- 14.5	Range	24.0- 46.4	31.3- 78.0	25.4- 45.0

*"Comparatively high" (other voluntary colleges "representative").