1956

College accounting testing program bulletin no. 27; Results of the spring, 1956, college accounting testing program and supplementary studies

American Institute of Accountants. Committee on Accounting Personnel

THE AMERICAN INSTITUTE OF ACCOUNTANTS
COLLEGE ACCOUNTING TESTING PROGRAM

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Prepared by
Committee on Accounting Personnel
21 Audubon Avenue
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A & M College of Texas
University of Akron
University of Alabama
American Institute of Business

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Arizona State College
Arkansas College

Arkansas State College
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University of Baltimore
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San Diego State College
University of San Francisco
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Seton Hall University
Siena College

Smithdeal-Massey Business College
University of South Dakota
South Middlesex Secretarial School
Southwestern Louisiana Institute
Southwestern University

Spring Hill College
Stevens Business College
Strayer College of Accountancy
Susquehanna University
Syracuse University

Taft Junior College
Tampa College
Temple University
Texas Christian University
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Tri-State College
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Ventura College
Victoria College
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Virginia Polytechnic Institute
Virginia Junior College
University of Virginia
Wake Forest College
Walla Walla College

Walsh Institute of Accountancy
Washington and Jefferson College
Washington and Lee University
State College of Washington
Wayne University

West Texas State College
West Virginia State College
Western Michigan College
Westminster College (Missouri)
Westminster College (Pennsylvania)

Wheaton College
Wilkes-Barre Business College
Wilkes College
College of William and Mary
Wisconsin State College

University of Wisconsin
College of Wooster
University of Wyoming
Yeshiva University

The tenth spring College Accounting Testing Program, held in April and May, 1956, reached a new high in number of participating colleges. The total number of participating colleges was 219. This was twenty-nine more than in the spring, 1955, program and eleven more than in the spring, 1950, program which included the largest number of participating colleges prior to this spring.

The number of tests used also increased substantially as compared with last spring, perhaps due in part to the availability of a new fifty-minute form of the Level I Achievement Test, which served as a welcome replacement for the two-hour form in a large number of colleges.

The following tabulation shows the kind and number of tests used in the spring in 1956 and in the five preceding spring programs:

Test	1956	1955	1954	1953	1952	1951
Orientation Test	2,215	2,272	2,050	2,169	2,251	4,734
Achievement Test, Level I	10,424	7,182	4,925	5,580	5,713	6,916
Achievement Test, Level II	2,350	2,041	1,990	2,034	1,940	3,502
Strong Interest Blank	318	304	568	397	516	1,113
Total	15,307	11,799	9,533	10,180	10,420	16,265

The total number of tests given this spring by the colleges, 15,307, represented an increase of 3,508 tests, or approximately 30 per cent, over the spring of 1955. The number of tests given this spring was less than a thousand smaller than the number in the spring, 1951, testing program, which is an appropriate reference point, because that program was held just at the time college enrollments were starting to go downward as a result of the Korean War. It is also of interest to note that the 1951 spring program was the last one which took place during the period when the charge for test materials and scoring services was only twenty-five cents per student per test.

The percentage distribution among the different kinds of tests employed in the 1956 spring program was as follows: Orientation Test, 14.5 per cent; Achievement Test, Level I, 68.1 per cent; Achievement Test, Level II, 15.4 per cent; Strong Vocational Interest Blank, 2.1 per cent. There was a substantial increase in the proportion of Level I tests given and a decline in the percentages for the other tests. It will be seen that approximately two-thirds of all the tests used this spring were Level I tests. The number of Level I tests given in the current program was much larger than the number in any prior program during the ten-year period, even including the very large program held in the spring of 1950. As already indicated, the availability of a form of the Level I test which would fit into a class period is probably a partial explanation of the noteworthy increase in the use of this test. The fifty-minute form of the Level I test accounted for 5,737 tests in this spring's program, as compared with 4,687 tests for the two-hour form.

It is a matter worthy of comment and perhaps of some concern that the use of Achievement Test, Level II, remained approximately constant during the past four spring programs, and increased only slightly this year in contrast to the large gain in the use of the Level I test. The spring is the time of year when it would be expected that the Level II test would be administered in large numbers in order to furnish evidence for prospective employers concerning the

achievement of graduating seniors. Perhaps the mediocre showing in the use of Level II as compared with Level I this year may be explained in part by the fact that the recent increase in college enrollments affects the lower college years first and that it may be expected to affect the senior year later. If this inference is correct, a considerable increase in the use of the Level II test may be expected within the next two years.

The kinds of colleges taking part in the spring, 1956, program and the number and per cent of the colleges of each kind are as follows:

Type of College	Number	Per Cent
Liberal Arts Colleges	109	49.8
Schools of Business in Universities	59	26.9
Teachers Colleges	4	1.8
Technical Colleges	14	6.4
Junior Colleges	12	5.5
Business Schools	21	9.6

The percentages for the different types of colleges remained fairly similar to those for the spring of 1955. There was a slight trend toward a larger proportion of liberal arts colleges, which group accounted for approximately half of all the participating colleges this spring. More than three-fourths of the institutions in the participating group were either universities or liberal arts colleges.

The following geographical distribution of colleges taking part in the program may be of interest:

Region	Number	Per Cent
New England	22	10.0
Middle Atlantic	56	25.6
North Central	64	29.2
South	47	21.5
West	28	12.8
Canada	1	0.5
Mexico	1	0.5

It will be observed that the participating colleges are widely distributed geographically. The percentage distribution of participants according to region is about what one would expect in view of the proportion of all colleges in the different regions.

Colleges in forty-four states took part in the program. Pennsylvania, with twenty-five participating colleges, again accounted for the largest number, and New York, with twenty-three colleges, was again second. Sixteen institutions in California, sixteen in Michigan, and from five to ten in several other states participated.

It will be recalled that there were considerable increases in the number of tests given by colleges in the fall and midyear programs of this academic year. Everything considered, the College Accounting Testing Program seems to have entered a period of fairly substantial growth.

SUMMARY OF TEST RESULTS

The test results of the 1956 spring program are shown in the form of distributions of scores of individuals and of college medians in Tables I through VIII. These statistical summaries are compiled to facilitate comparison of test results from one program to another and to enable individual colleges to compare their medians with those of other participating institutions.[1]

The score distributions shown in this bulletin are for the recommended forms of the tests. Certain colleges used other forms for special purposes, but the groups of students involved were too small to warrant the preparation of distributions of their scores. The results of the Strong Vocational Interest Blank are not shown, since scores on this inventory are intended primarily for use in individual counseling, rather than for the purpose of making group comparisons.

In each table, the median score for the 1956 spring program is indicated by a short horizontal line just to the right of each distribution column, and the range of the middle 50 per cent of the scores is shown by the line perpendicular to this median line. For tests that have been used in previous spring programs, the norm medians are represented by the broken line extending across each column. The statistics given at the bottom of each distribution column show the number of participants, the range of scores, and the scores corresponding to the median, quartile points, and the tenth and ninetieth percentiles.

Results are shown separately for required and voluntary testings where there are sufficient data. A test is regarded as having been administered on a required basis when 90 per cent or more of the students in a given class took the test.

Achievement Test, Level I.-The distributions of scores of students who took the I-A-S test on a required basis are shown in Table I. Since this fifty-minute form of the Level I test is new in the college program, there are no previously established norms available for comparison. At the first-year level, the scores are distributed over the total possible range, and there is no marked concentration of scores at either end of the distribution. The first-year median, 31.3, is just slightly more than half of the maximum possible score, 60. About three-fourths of the second-year students who took the test rank above the first-year median, and approximately the same proportion of third-year students rank above the second-year median. The distribution of scores of first-year students who took the I-A-S test on a voluntary basis is shown in Table III. The median score of this group is less than four points above that of the first-year students who took the test on a required basis. A report of some research data on this new fifty-minute form will be found at the end of this bulletin.

As will be seen from Table II, the median score of the 3,038 first-year students tested with the two-hour Level I, Form A, test is about two points above the norm median based on the results of the combined spring programs of 1952 and 1954. At the second-year level, the median this spring is about equal to the norm median. The median of the third-year students exceeds the norm median by slightly more than two points. The median score of the 184 first-year students who took the I-A test on a voluntary basis (Table III) is

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[1] A participating institution may obtain on request a confidential copy of this bulletin marked to show the placement of its own medians in the distributions.

practically identical with that of the first-year students who participated on a required basis.

It is interesting to note that there is a substantial difference between the second- and third-year medians, both for past programs and the present one, on the new fifty-minute I-A-S test, while there is very little difference between the medians at these two levels of study on the two-hour I-A test. This may be because the fifty-minute test places a greater emphasis on speed, and thus serves to provide better discrimination in the upper range of ability level. However, the number of third-year students tested with either the fifty-minute form or the two-hour form of the Level I test is relatively small, in comparison with the numbers tested at the second-year level, and the differences between the medians at the two levels may be a function of sampling variations. Another consideration to be kept in mind in making comparisons between the second- and third-year medians is that second-year students in some institutions may have had as many accounting courses as third-year students in other institutions.

Achievement Test, Level II.-On both Form D (the two-hour form) and Form B (the four-hour form) of the Level II Achievement Test, the medians this spring of the seniors tested on a required basis are slightly above the norm medians based on the results of the combined spring programs of recent years (Table IV). The seniors tested with Form D on a voluntary basis have a median that is about eight points above the norm median. At the second- and third-year levels, the medians this spring are quite high (Table V). About two-thirds of these students tested on a required basis and almost three-fourths of those tested on a voluntary basis have scores above the second- and third-year median for the combined spring programs of 1952-1955.

Perhaps the best basis for appraising the trend in recent years in the achievement level of participants in the college program is a comparison of the Level II program medians of seniors tested on a required basis. The Form A medians since 1950, the first year in which this form was used in the college program, are as follows: 1950--55.8; 1951--52.6; 1952--57.1; 1953--58.1; 1954--58.6; 1955--55.2; 1956--58.8. While the variations among these medians are not very large, it is worth noting that the upward trend is marred only by the 1951 and 1955 medians.

Orientation Test.-On all three scales of the Orientation Test, the medians of the first-year students tested on a required participation basis this spring are quite close to the 1953-1955 norm medians (Table VI). The total score median of the first-year students in the voluntary participation group is also about equal to the norm median, while the verbal median falls slightly below the norm median, and the quantitative median is three points above the norm median (Table VII). The pattern of the medians of the senior students (Table VIII) is rather similar to that of the first-year students. In relation to the corresponding norm medians, the verbal median of the seniors is somewhat low, while the quantitative median is about two points higher, and the total score median is just slightly lower.

In summary, the Achievement Test medians of the various groups of students tested this spring equal or exceed the norm medians based on the test results of recent spring programs. The Level II Achievement Test medians of the students tested at the second- and third-year levels are especially favorable. On the Orientation Test, the total score medians of both the first-year and senior groups are quite close to those of the corresponding groups tested in recent spring programs.

TABLE I

DISTRIBUTIONS OF SCORES AND COLLEGE MEDIANS ON ACHIEVEMENT TEST, LEVEL I, FORM A-S, IN CLASSES WHERE THE TEST WAS REQUIRED OR WHERE 90 PER CENT OF THE STUDENTS, OR MORE, TOOK IT ON A VOLUNTARY BASIS

Score	FIRST YEAR Scores of Individuals	FIRST YEAR Medians of Colleges	SECOND YEAR Scores of Individuals	SECOND YEAR Medians of Colleges	THIRD YEAR Scores of Individuals	THIRD YEAR Medians of Colleges
60	4				1	
58	4		6			
56	22		28		11	
54	30		7		9	
52	66		31		12	
50	50		32		2	1
48	103		45		10	
46	132	1	49	3	6	
44	215		49	1	11	
42	169		30		5	1
40	283	3	36	2	6	1
38	214	4	28		2	
36	315	3	36	2	4	
34	250	7	24		3	1
32	280	9	37		2	
30	255	4	30			
28	289	12	27	2	2	
26	235	12	15			
24	260	4	21	1	1	
22	211	2	15	1	1	
20	243	1	23		6	
18	159	1	10			
16	178	1	11			
14	122		8			
12	122		6		2	
10	72		3			
8	66		3			
6	41		4			
4	41		1			
2	14		1			
0-1	8		2			
Total	4453	64	618	12	96	4
Q3	39.7	34.6	47.8		53.5	
Md	31.3	29.8	40.2	39.0	47.0	
Q1	22.4	27.2	30.3		40.3	
Range	0-60	17.8-46.5	0-59	23.5-47.3	12-60	35.0-50.5
10 %ile	15.3	24.7	21.1		25.2	
90 %ile	45.7	38.8	52.7		56.4	

TABLE II

DISTRIBUTIONS OF SCORES AND COLLEGE MEDIANS ON ACHIEVEMENT TEST, LEVEL I, FORM A, IN CLASSES WHERE THE TEST WAS REQUIRED OR WHERE 90 PER CENT OF THE STUDENTS, OR MORE, TOOK IT ON A VOLUNTARY BASIS

Score	FIRST YEAR Scores of Individuals	FIRST YEAR Medians of Colleges	SECOND YEAR Scores of Individuals	SECOND YEAR Medians of Colleges	THIRD YEAR Scores of Individuals	THIRD YEAR Medians of Colleges
120						
117						
114						
111	2		2		1	
108			3		3	
105	5		4		2	
102	5		10		5	
99	10		24		8	
96	13		13		3	
93	15		29		12	1
90	26		29	2	14	
87	33		39		12	
84	41		37		21	
81	59		29		24	3
78	71		38	2	25	1
75	87	1	46	4	23	
72	118	2	41	2	28	3
69	137	2	43	5	26	1
66	154	3	47	3	16	2
63	170	5	43	2	23	1
60	182	6	33	2	20	1
57	189	4	39	1	13	
54	175	11	38	2	15	
51	200	4	31	1	23	1
48	205	13	37	2	16	
45	188	6	25		8	
42	178	4	35	1	9	
39	141	1	23		9	
36	114	1	14		4	
33	110	1	16	1	5	
30	84		13		4	
27	76		10			
24	61		7		1	
21	58		3			
18	34		5			
15	45	1	4			
12	14		2			
9	16		2			
6	9					
3	5					
0-2	8					
Total	3038	65	814	30	373	14
Q3	66.3	61.4	82.6	75.4	82.5	
Md	53.6	54.4	67.7	69.0	71.4	73.0
Q1	41.7	48.5	51.7	58.5	56.9	
Range	0-109	16.5-76.0	9-113	35.3-91.5	26-112	53.5-94.5
10 %ile	29.1	43.9	39.7	49.5	47.0	
90 %ile	77.2	67.5	93.4	79.5	92.3	

----Medians, combined spring programs, 1952, 1954

TABLE III

DISTRIBUTIONS OF SCORES AND COLLEGE MEDIANS ON ACHIEVEMENT TEST, LEVEL I, FORM A AND FORM A-S, IN FIRST YEAR CLASSES WHERE LESS THAN 90 PER CENT OF THE STUDENTS VOLUNTARILY TOOK THE TEST

	FORM A			FORM A-S	
Score	Scores of Individuals	Medians of Colleges	Score	Scores of Individuals	Medians of Colleges
120					
117					
114					
111					
108					
105					
102			60	2	
99			58		
96	1		56	1	
93	1		54	2	
90	1		52	7	
87	4		50	8	
84			48	17	
81	4		46	10	
78	6		44	15	
75	8		42	12	
72	8	1	40	18	1
69	12	2	38	20	1
66	12	1	36	18	1
63	10		34	23	2
60	6	1	32	22	1
57	10	2	30	22	1
54	7	1	28	12	
51	10		26	20	
48	5		24	21	1
45	8		22	7	
42	9		20	6	
39	10	1	18	13	
36	8		16	3	
33	7		14	2	
30	9		12	3	
27	8		10	2	
24	2	1	8		
21	5		6	1	
18	1		4		
15	3		2	2	
12	4		0-1		
9	2				
6	2				
3					
0-2	1				
Total	184	10	Total	298	8
Q3	68.8		Q3	42.3	
Md	53.4	60.0	Md	34.7	35.0
Q1	36.8		Q1	27.2	
Range	0-97	25.5-72.8	Range	2-60	24.8-41.3
10 %ile	24.6		10 %ile	21.0	
90 %ile	77.5		90 %ile	49.0	

----Medians, combined spring programs, 1952, 1954

TABLE IV

DISTRIBUTIONS OF SCORES OF SENIOR ACCOUNTING STUDENTS AND MEDIAN SCORES OF SENIOR CLASSES ON ACHIEVEMENT TEST, LEVEL II, FORMS D AND B

	FORM D REQUIRED*		FORM D VOLUNTARY[x]			FORM B REQUIRED*	
Score	Scores of Individuals	Medians of Colleges	Scores of Individuals	Medians of Colleges	Score	Scores of Individuals	Medians of Colleges
100					150		
98	2				147		
96	4				144		
94	2				141		
92	11		2		138		
90	24		6		135	3	
88	15		4		132		
86	14		6		129	1	
84	38		3		126	1	
82	32		2		123	1	
80	32		3		120	4	
78	39	1	4		117	8	
76	40	2	4	1	114	9	
74	27		3		111	15	
72	49	5	10	1	108	4	
70	40	1	11		105	15	
68	35	1	2		102	11	
66	54	3	4	1	99	13	
64	49	2	8	5	96	25	
62	34	1	9		93	19	1
60	39	8	5		90	15	2
58	28	1	3		87	25	5
56	41	4	4	1	84	24	6
54	45	4	2		81	22	1
52	34	2	1		78	14	2
50	45	3	3		75	32	3
48	41	1	4		72	25	1
46	32	2	7		69	20	2
44	32	2	3		66	13	1
42	33	3	2		63	23	
40	28		3		60	16	
38	25	3	5	2	57	8	
36	37	1	2		54	18	1
34	13		5		51	11	1
32	18		2		48	6	
30	29	1	1		45	7	
28	13		3		42	6	
26	22		1		39	5	
24	19		1		36	3	
22	10	1	4		33	1	
20	11	1			30	2	
18	12				27	1	
16	5				24		
14	9		1		21		
12	5				18		
10	4				15		
8	6		1		12		
6	4				9	1	
4	4				6		
2	2				3		
0-1	7				0-2		
Total	1194	53	144	11	Total	427	26
Q3	73.2	65.8	74.7		Q3	96.4	87.9
Md	58.8	57.3	64.0	65.0	Md	81.2	84.5
Q1	42.9	47.3	46.6		Q1	65.8	75.5
Range	0-99	21.0-78.5	9-93	39.0-76.0	Range	9-137	52.0-94.5
10 %ile	27.9	38.9	34.2		10 %ile	53.9	67.8
90 %ile	83.4	73.1	87.2		90 %ile	110.5	90.6

----Median, combined spring programs, 1953, 1954, 1955

----Median, combined spring programs, 1949, 1950, 1952, 1954

*Colleges testing on required basis plus classes in which 90 per cent or more of the students voluntarily took the test

xColleges having classes in which less than 90 per cent of the students took the test

TABLE V

DISTRIBUTIONS OF SCORES AND COLLEGE MEDIANS OF COMBINED SECOND AND THIRD YEAR CLASSES ON ACHIEVEMENT TEST, LEVEL II, FORM D

Score	REQUIRED* Scores of Individuals	REQUIRED* Medians of Colleges	VOLUNTARY x Scores of Individuals	VOLUNTARY x Medians of Colleges
100				
98				
96	1			
94	2		1	
92	1			
90	1			
88			1	
86	1		1	
84	2		1	
82	4			
80	2			
78	4		2	1
76	7		2	
74	4			
72	9		2	
70	9	1	2	
68	8	2		
66	8		2	
64	8		3	
62	14		1	
60	16	1		
58	14	2	2	
56	12		1	
54	20	3	4	1
52	11	1	3	1
50	17	2		
48	19	5	3	1
46	21		4	
44	10	1	1	
42	13	1	3	
40	12	1	1	
38	12		2	
36	16	3	1	
34	14	1	1	
32	12	1	1	
30	16	2	1	
28	7			
26	14		4	
24	12			
22	8		1	
20	8		1	
18	5			
16	7			
14	4		1	
12	6			
10	4		1	
8	3			
6	3			
4	2			
2				
0-1				
Total	403	27	54	4
Q3	60.0	55.5	66.5	
Md	47.3	49.4	52.7	
Q1	32.3	37.8	39.5	
Range	4-96	30.5-71.0	11-94	49.0-78.5
10 %ile	21.6	33.4	26.7	
90 %ile	71.5	68.3	78.6	

----Median, combined spring programs, 1952, 1953, 1954, 1955

*Colleges testing on required basis plus classes in which 90 per cent or more of the students voluntarily took the test

xColleges having classes in which less than 90 per cent of the students took the test

TABLE VI

DISTRIBUTIONS OF SCORES AND COLLEGE MEDIANS ON ORIENTATION TEST, FORM A, IN FIRST YEAR CLASSES WHERE THE TEST WAS REQUIRED OR WHERE 90 PER CENT OF THE STUDENTS, OR MORE, TOOK IT ON A VOLUNTARY BASIS

VERBAL			QUANTITATIVE			TOTAL		
Score	Scores of Individuals	Medians of Colleges	Score	Scores of Individuals	Medians of Colleges	Score	Scores of Individuals	Medians of Colleges
99-100								
96						160		
93						155		
90			60			150		
87	1		58	2		145		
84	1		56	3		140		
81	3		54	3		135	1	
78	4		52	8		130	3	
75	6		50	6		125	2	
72	10		48	9		120	4	
69	8		46	16		115	10	
66	24		44	15		110	7	
63	33		42	33		105	12	
60	39		40	38		100	21	
57	41		38	47		95	44	
54	38		36	66		90	57	
51	67		34	79		85	58	
48	82		32	79		80	87	
45	88	2	30	87	1	75	114	2
42	127	3	28	128	2	70	116	1
39	105	2	26	105	4	65	124	2
36	116	2	24	106	4	60	156	4
33	140	2	22	107	7	55	165	5
30	116	3	20	107		50	127	2
27	110	4	18	81	2	45	113	3
24	97	1	16	74	1	40	85	1
21	85	3	14	62		35	66	1
18	65		12	63		30	53	1
15	42		10	58	1	25	27	
12	17		8	35		20	16	
9	15		6	30		15	18	
6	9		4	22		10	13	
3	8		2	10		5	2	
0-2	5		0-1	23		0-4	1	
Total	1502	22	Total	1502	22	Total	1502	22
Q3	47.4	41.3	Q3	32.7	26.8	Q3	77.0	64.4
Md	37.1	33.0	Md	25.5	24.0	Md	62.1	58.0
Q1	27.9	28.1	Q1	18.0	22.4	Q1	49.2	49.2
Range	0-88	22.0-47.5	Range	0-58	11.7-30.0	Range	3-138	34.2-77.1
10 %ile	20.5	23.2	10 %ile	11.0	18.2	10 %ile	36.5	41.0
90 %ile	58.4	44.8	90 %ile	39.3	28.8	90 %ile	90.9	74.0

----Medians, combined spring programs, 1953, 1954, 1955

TABLE VII

DISTRIBUTIONS OF SCORES AND COLLEGE MEDIANS ON ORIENTATION TEST, FORM A, IN FIRST YEAR CLASSES WHERE LESS THAN 90 PER CENT OF THE STUDENTS VOLUNTARILY TOOK THE TEST

VERBAL			QUANTITATIVE			TOTAL		
Score	Scores of Individuals	Medians of Colleges	Score	Scores of Individuals	Medians of Colleges	Score	Scores of Individuals	Medians of Colleges
99-100								
96						160		
93						155		
90			60			150		
87			58	1		145		
84	1		56			140		
81	1		54	3		135	2	
78	1		52	3		130	1	
75	1		50	2		125		
72			48	1		120	2	
69	4		46	5		115	2	
66	3		44	7		110		
63	5		42	7		105	4	
60	7		40	10		100	8	
57	8		38	9		95	9	
54	7		36	12		90	9	
51	8		34	13		85	13	
48	15	1	32	21	3	80	16	1
45	14	2	30	18		75	15	1
42	9		28	18	3	70	12	2
39	18		26	27		65	23	
36	14	2	24	14	2	60	28	1
33	25	1	22	20	1	55	24	2
30	29	3	20	18		50	22	2
27	23	1	18	11		45	21	1
24	16		16	5		40	16	
21	13		14	7		35	14	
18	12		12	5	1	30	4	
15	10		10	4		25	2	
12	1		8	4		20		
9	2		6	3		15	2	
6	1		4	1		10		
3	1		2			5		
0-2			0-1			0-4		
Total	249	10	Total	249	10	Total	249	10
Q3	47.7		Q3	35.7		Q3	81.2	
Md	35.0	36.0	Md	28.6	28.7	Md	63.5	60.0
Q1	27.8		Q1	22.4		Q1	50.7	
Range	5-85	27.4-50.5	Range	4-58	13.0-33.8	Range	16-136	46.3-84.2
10 %ile	20.5		10 %ile	16.4		10 %ile	40.9	
90 %ile	59.3		90 %ile	43.2		90 %ile	96.7	

----Medians, combined spring programs, 1953, 1954, 1955

TABLE VIII

DISTRIBUTIONS OF SCORES AND COLLEGE MEDIANS ON ORIENTATION TEST, FORM A, IN SENIOR CLASSES WHERE THE TEST WAS REQUIRED OR WHERE 90 PER CENT OF THE STUDENTS, OR MORE, TOOK IT ON A VOLUNTARY BASIS

VERBAL			QUANTITATIVE			TOTAL		
Score	Scores of Individuals	Medians of Colleges	Score	Scores of Individuals	Medians of Colleges	Score	Scores of Individuals	Medians of Colleges
99-100								
96						160		
93						155		
90			60			150		
87			58	2		145		
84	1		56			140		
81			54	2		135	1	
78	1		52	6		130	1	
75	3		50	1		125	1	
72	1		48	1		120	4	
69	6		46	7		115	4	
66	4		44	6		110	4	
63	5		42	7		105	2	
60	6	1	40	6	2	100	5	
57	6		38	7	2	95	11	1
54	4	1	36	7	1	90	10	1
51			34	5	1	85	7	2
48	8	1	32	8		80	7	
45	9	1	30	7		75	8	2
42	7	2	28	2	1	70	8	
39	12	1	26	8		65	4	
36	5		24	3		60	6	1
33	5		22	1		55	2	
30	3		20	4		50	3	
27	4		18			45	3	
24	1		16			40	1	
21	1		14			35		
18			12	1		30		
15			10			25		
12			8			20		
9			6			15		
6			4			10		
3			2	1		5		
0-2			0-1			0-4		
Total	92	7	Total	92	7	Total	92	7
Q3	62.0		Q3	44.7		Q3	99.5	
Md	47.7	46.5	Md	37.7	38.5	Md	87.9	86.3
Q1	40.0		Q1	30.9		Q1	72.5	
Range	23-84	40.5-60.5	Range	3-58	28.0-41.0	Range	42-139	62.5-95.8
10 %ile	33.1		10 %ile	25.5		10 %ile	60.2	
90 %ile	70.4		90 %ile	52.3		90 %ile	117.3	

----Medians, combined spring programs, 1952, 1953, 1954

RESEARCH NOTES ON THE FIFTY-MINUTE FORMS OF THE LEVEL I ACHIEVEMENT TESTS

By

Robert D. North

In response to requests from colleges for an elementary accounting achievement test that can be administered in one class period, the Project Office has prepared fifty-minute forms of the Level I Achievement Tests. Form A-S, containing sixty items adapted from the two-hour I-A test, was used experimentally in the spring of 1955 by the accounting departments of two state universities and was made available for general use in the spring program this year. In all, eighty colleges administered the I-A-S test to 5,737 students this spring. Form I-B-S, consisting of sixty items drawn from the I-B test, and a third fifty-minute form, I-C-S, are being prepared for use in subsequent programs.

The correlations between I-A-S scores and course grades for three groups of first-year students in the two universities that used the test in 1955 were reported in the 1956 midyear program bulletin.[1] Further research data relating to the fifty-minute forms of the Level I test are given in this report.

To evaluate the reliability of the I-A-S test, a sample of 347 answer sheets of first-year students in four colleges was drawn from the 1956 spring program files. The median and quartile points of this sample are within two points of those shown in Table I of this bulletin for the total group of first-year students that took the test this spring. The reliability coefficient[2] of the I-A-S scores for this sample group is .88. This reliability is about as high as can be expected of a test of sixty items drawn from the 120 items in the I-A test, which has a reliability of about .94.

Since the time limit for the I-A-S test, in proportion to the number of items, is less than that for the I-A test, it seems likely that speed may have a greater influence on the fifty-minute test scores than on the two-hour test scores. As a means of appraising the degree of speededness of the I-A-S test, a tally was made of the last item answered by each of the 347 first-year students whose answer sheets were used in the reliability study reported above. It was found that about two-thirds of these students answered the last item (Item 60) in the test. Approximately 80 per cent went as far as the 56th item, and 90 per cent went up to the 49th item. Judging from these data, speed may have a significant bearing on some students' scores on the I-A-S test. However, the fact that the items in the test are arranged in order of difficulty should also be taken into consideration. A student's failure to complete the test within the time limit might be attributable to a certain extent to his inability to cope with the more difficult items.

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[1] "A Note on the Relation Between Scores on the New Fifty-Minute Form of the Achievement Test, Level I, and Course Grades," Results of the 1956 Midyear College Accounting Testing Program, p. 8. New York: Committee on Accounting Personnel, April, 1956.

[2] The reliability coefficient was obtained by computing the correlation between scores based on the even-numbered items and scores based on the odd-numbered items, and by applying the Spearman-Brown formula.

The question of the extent of correlation between scores on the fifty-minute forms and the scores on the two-hour forms is probably of general interest. The question cannot be answered directly, since no groups of students have taken both the long and short forms. However, an estimate of the relation has been obtained by scoring the I-A and I-B answer sheets from one institution for both the full length tests and for the groups of items used in the fifty-minute forms. The correlation between the I-A and I-A-S scores obtained through this procedure is .93, and between the I-B and I-B-S scores, it is .89. These correlations are probably slightly higher than those that would be obtained if the long and short forms were administered in different sessions, but making allowances for this, it seems likely that for the most part the fifty-minute and two-hour forms will tend to rank students in similar orders.

The test results from the same university were used for the purpose of comparing the difficulty levels of the groups of items used in the I-A-S and I-B-S forms. This university had administered the I-A form to one group of first-year students in the spring of 1955, and the I-B form to another group of first-year students in the same program. The percentiles corresponding to the medians and quartiles of these groups on the two-hour tests are shown in the table below, along with the raw scores obtained by scoring the tests for the groups of items used in the fifty-minute forms.

TABLE IX

COMPARISON OF THE MEDIANS AND QUARTILES ON THE I-A AND I-B TESTS AND ON THE I-A-S AND I-B-S ITEMS OF TWO GROUPS OF STUDENTS FROM ONE UNIVERSITY

	Percentiles Corresponding to Medians and Quartiles on the Two-Hour Tests		Raw Scores	
			I-A Test Scored for I-A-S Items	I-B Test Scored for I-B-S Items
	I-A	I-B		
Q3	75	78	40.1	43.4
Md	57	58	34.4	35.0
Q1	31	37	25.6	27.9
N	107	102	107	102

The percentiles corresponding to the medians and quartiles of the two groups on the two-hour tests are quite similar, indicating that the two groups are fairly well matched. The medians and quartiles of the raw scores of the two groups on the items used in the I-A-S and I-B-S forms are also very similar, and the slight differences that occur are in the same direction as the differences on the two-hour tests. On this basis, it appears that the I-A-S and I-B-S forms are fairly comparable with respect to difficulty levels.