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College Accounting

THE AMERICAN INSTITUTE OF ACCOUNTANTS
COLLEGE ACCOUNTING TESTING PROGRAM

Bulletin No. 18

RESULTS OF THE
SPRING, 1953, COLLEGE ACCOUNTING TESTING PROGRAM

*Including a Brief Report on a New High School
Accounting Orientation Test*

Prepared by
Committee on Development of Accounting Personnel
21 Audubon Avenue
New York 32, N. Y.

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COOPERATING INSTITUTIONS

Adelphi College
Agricultural and Mechanical College of Texas
University of Akron
Alabama Polytechnic Institute
University of Alabama

Alfred University
Allegheny College
Arizona State College
Arkansas State College
Bakersfield College

Ball State Teachers College
University of Baltimore
Bellarmine College
Berry College
Bloomsburg State Teachers College

Bowling Green State University
Brigham Young University
Brooklyn College
Bryant College
Bucknell University

Burdett College
Butler University
University of California, Los Angeles
Calvin College
Canisius College

Catawba College
Central Michigan College
Central Missouri State College
Chaffey College
University of Chattanooga

Clarkson College of Technology
Colby College
Colorado College
University of Colorado
Dartmouth College, Amos Tuck School

University of Denver
DePaul University
Detroit Institute of Technology
University of Detroit
Drake University

Drexel Institute of Technology
Duke University
Duquesne University
Evans College of Commerce
Fairfield University

Flint Junior College
University of Florida
Fordham University
Franklin and Marshall College
Gannon College

George Washington University
Grand Rapids Junior College
Gustavus Adolphus College
Hampton Institute
Hanover College

Harvard University
Hastings College
Henry Ford Community College
Hillsdale College
Hofstra College

College of the Holy Cross
Hope College
University of Illinois
Iona College
Iowa State Teachers College

Jackson Junior College
Jamestown College
Kent State University
University of Kentucky
King's College

LaSalle College
Lawrence College
Lebanon Valley College
University of Louisville
Luther College

Lycoming College
Manhattan College
Marquette University
Marsh Business College
University of Maryland

University of Massachusetts
 Merrimack College
 University of Miami
 Millsaps College
 University of Mississippi

Mississippi State College
 Montana State University
 Moravian College
 College of Mount Saint Vincent
 New Haven College

University of Nevada
 University of New Mexico
 Niagara University
 University of North Carolina
 Northland College

North Texas State College
 Northern Michigan College of Education
 University of Notre Dame
 University of Omaha
 Oregon State College

University of Pennsylvania
 Pennsylvania State College
 Pennsylvania Military College
 Phillips University
 Providence College

Queens College
 Randolph-Macon College
 Regis College (Colorado)
 University of Rhode Island
 Rider College

Roanoke College
 Rochester Institute of Technology
 University of Rochester
 Rockhurst College
 Roosevelt College of Chicago

Rutgers University, School of Business Adm.
 St. Ambrose College
 St. Francis College (Pennsylvania)
 St. Joseph's College (Indiana)

St. Joseph's College (Pennsylvania)
 St. Mary's University (Texas)
 St. Michael's College (New Mexico)
 St. Vincent College
 Salmon P. Chase (YMCA) College

San Diego State College
 University of San Francisco
 San Jose State College
 University of Scranton
 Seton Hall University

Shasta College
 Siena College
 Sinclair College
 University of South Carolina
 University of South Dakota

Southern Illinois University
 Southwestern University
 Spencerian College
 Springfield Junior College
 Spring Hill College

State College of Washington
 State University of Iowa
 Strayer College of Accountancy
 Susquehanna University
 Temple University

University of Texas
 Villanova College
 University of Virginia
 Virginia Polytechnic Institute
 Wake Forest College

Washington and Lee University
 Wayne University
 Westchester Commercial School
 Western Reserve University
 West Texas State College

Wheaton College
 College of William and Mary
 University of Wisconsin
 University of Wyoming

INTRODUCTION

One hundred and fifty-eight colleges participated in the seventh spring College Accounting Testing Program held in April and May, 1953. The numbers of colleges taking part in the spring, 1952, and spring, 1951, programs were 173 and 185 respectively. While the number of participating colleges was somewhat smaller this spring, the total number of tests administered was almost the same as the number in the spring of 1952, although considerably smaller than the number in 1951. The numbers of tests of the different kinds that were used in the three programs are as follows:

<u>Test</u>	<u>Spring 1953</u>	<u>Spring 1952</u>	<u>Spring 1951</u>
Orientation Test	2,169	2,251	4,734
Achievement Test, Level I	5,580	5,713	6,916
Achievement Test, Level II	2,034	1,940	3,502
Strong Vocational Interest Blank	397	516	1,113
Total	<u>10,180</u>	<u>10,420</u>	<u>16,265</u>

In comparison with the spring of 1952, there were small decreases in the use of the Orientation Test, the Achievement Test, Level I, and the Strong blank, and a slight increase in the use of Achievement Test, Level II. The close comparability in the figures on the use of the tests this spring and in the spring of 1952 suggests that the downward trend in participation in the College Accounting Testing Program, which began in the fall of 1950 soon after the beginning of the war in Korea, may be leveling off.

Of the tests used in the 1953 spring program, approximately 55 per cent were Level I Achievement Tests, 21 per cent were Orientation Tests, 20 per cent were Level II Achievement Tests, and 4 per cent were Strong Vocational Interest Blanks. These percentages are not very different from those of last spring. The Achievement Tests are always stressed in the spring program, while the greater use of the Orientation Test is in the fall.

An analysis of the 158 participating colleges according to type of institution shows that fifty-two, or 23.9 per cent, are schools of business in colleges and universities; seventy-one, or 44.9 per cent, are liberal arts colleges (usually having a department of business instruction); five, or 3.2 per cent, are teachers colleges; ten, or 6.3 per cent, are technical colleges; fourteen, or 8.9 per cent, are junior colleges; and six, or 3.7 per cent, are private business colleges. It will be observed that universities and liberal arts colleges form more than three-fourths of the total number of institutions in this spring's program.

All regions of the United States are represented by the colleges taking part in the 1953 spring testing program. The numbers of participating colleges from the different regions are as follows: New England, 11; Middle Atlantic States, 46; North Central Region, 46; South, 34; West, 21. Colleges in forty-one states and the District of Columbia took part in this program. The College Accounting Testing Program apparently reaches students throughout the country.

SUMMARY OF TEST RESULTS

The distributions of the scores of college students on the forms of the Orientation and Achievement Tests recommended for the spring, 1953, program are shown in Tables I through XII. There was scattered use of other forms of these tests by a few colleges, but those results are not shown.

In accordance with a procedure begun in the spring of 1952, separate distributions are shown for a "norm" group and for an "out-of-norm" group. The norm group consists of students in classes where the tests were required or where 90 per cent or more of the students took the tests voluntarily. The out-of-norm group consists of students in classes where the taking of the tests was optional and where less than 90 per cent of the students took them voluntarily. This kind of division of the groups was made at the recommendation of the committee in charge of the accounting testing project in order to avoid allowing the scores of students who took the tests voluntarily to distort the norms.

Since the separation of the students participating in the program into what are essentially "required" and "voluntary" groups was not begun until the spring, 1952, program, the medians based on programs prior to 1952, as shown on the distribution tables, are derived from the distributions of scores of all students taking part in the program in those earlier years, regardless of whether participation was required or voluntary. Hence, the medians resulting from earlier programs may tend to be a little higher than they would be if they had been prepared on the basis now used for the norms, although available data indicate that, on the whole, the inclusion of results for students who take the tests voluntarily does not greatly affect the norms.

Achievement Test, Level I.- The distributions of scores made on Achievement Test, Level I, Form B, by individuals and classes in the first, second, and third years of accounting, where the testing was required or where at least 90 per cent of the students took the tests voluntarily, are shown in Table I. Comparable distributions for much smaller groups of students who took the Level I test voluntarily are shown in Table II.

It will be observed that all these distributions are spread over the greater part of the possible range of scores. The medians for the required testing groups are a few points below the combined medians based on the spring programs of 1948 and 1950, while the medians for the voluntary testing groups are somewhat above the earlier medians. As one would expect, the medians move upward substantially from the first to the second year of study, but the difference between the medians for the second and third years of study is comparatively small.

Achievement Test, Level II.- The distributions of scores made on Forms A and D of Achievement Test, Level II, by the required and voluntary testing groups are shown in Tables III and IV. It will be noted that on Form A (the four-hour form) the median for the required testing group, 97.8, is considerably above the median based on the

combined spring programs of 1949 and 1951 and much above the median of 69.4 made by the voluntary group. The fact that the median for the required testing group is well above the one for the voluntary group is contrary to what one would expect if the basis for separation of required and voluntary groups is sound. However, the groups are small, and the difference is probably due to the selection of college classes in the two groups.

On Achievement Test, Level II, Form D, the median for the required testing group, 58.1, is about three raw score points above the median resulting from the earlier testing programs. The median for the voluntary testing group exceeds the one for the required group by another 4.5 points. In each group, the range of scores is very wide, 0 to 99, out of a possible 100 raw score points. It seems very surprising that there could be such extreme differences among students who are near the point of graduation from accounting courses.

Orientation Test.- Tables V to VIII inclusive are concerned with the results of the Orientation Test, Form A, for groups at the first, second, third, and fourth years of study where the testing was required or where 90 per cent or more took the test voluntarily. Except at the first-year level, the groups were comparatively small, but apparently all of them were representative of the usual college groups taking these tests. Throughout the four years, the median verbal, quantitative, and total scores are in close agreement with the corresponding medians based on the combined spring programs of 1949 and 1950.

The last four tables, Tables IX to XIII inclusive, contain the distributions of scores at the four different levels of study where the students took the Orientation Test voluntarily and where less than 90 per cent of the students participated. The groups are so small that their results are not very meaningful, but these distributions are shown as a matter of record.

In the overall picture, the results of the Orientation Test and Achievement Tests administered in the spring, 1953, program agree well with the results obtained on the same forms of the tests in earlier programs.

TABLE I

DISTRIBUTIONS OF SCORES OF INDIVIDUAL STUDENTS AND MEDIAN SCORES OF INDIVIDUAL COLLEGES ON ACHIEVEMENT TEST, LEVEL I, FORM B, 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		SECOND YEAR		THIRD YEAR	
	Scores of Individual Students	Median Scores of Individual Colleges	Scores of Individual Students	Median Scores of Individual Colleges	Scores of Individual Students	Median Scores of Individual Colleges
164+			1		1	
160			3			
156	4		3		2	
152	5		7		1	
148	4		11		4	
144	2		5		2	
140	9		12		6	
136	17		11		5	
132	22		25		7	
128	39		19	1	14	
124	40		18		18	
120	47		24	1	8	
116	53		19		22	
112	77		28	3	12	
108	102		38	2	25	2
104	94	2	40	4	27	1
100	151	2	45	5	23	2
96	130	4	52	2	23	
92	159	3	45	2	23	3
88	191	5	33	2	22	
84	186	6	40	1	25	1
80	241	7	42	2	18	1
76	235	9	40	2	21	1
72	194	5	32	1	15	1
68	207	5	33		13	
64	200	4	38	2	10	
60	177	7	43	1	18	
56	179	6	20		14	
52	164	4	22		7	
48	168	2	18		8	
44	136	1	14		3	
40	145	1	14		2	
36	103	1	12		5	
32	87		10		3	
28	70		6		2	
24	73		5			
20	48					
16	33		1			
12	15		1			
8	15					
4	7					
0-3	3					
Total	3832	74	830	31	409	12
Q3	91.9	86.3	109.7	107.3	112.0	
Md	73.8	76.4	90.9	100.4	95.2	94.7
Q1	53.3	62.0	68.4	83.5	76.4	
Range	0-159	38.0-106.0	12-164	62.0-130.0	30-167	74.0-111.7
10 %ile	37.3	54.4	52.4	72.4	59.1	
90 %ile	109.5	96.6	130.9	114.5	128.3	

----Medians, combined spring programs, 1948 and 1950

DISTRIBUTIONS OF SCORES OF INDIVIDUAL STUDENTS AND MEDIAN SCORES OF INDIVIDUAL COLLEGES ON ACHIEVEMENT TEST, LEVEL I, FORM B, IN CLASSES WHERE LESS THAN 90 PER CENT OF THE STUDENTS VOLUNTARILY TOOK THE TEST

Score	FIRST YEAR		SECOND YEAR		THIRD YEAR	
	Scores of Individual Students	Median Scores of Individual Colleges	Scores of Individual Students	Median Scores of Individual Colleges	Scores of Individual Students	Median Scores of Individual Colleges
160+	2					
156	1		1		1	
152	1				4	
148	1		2		3	
144	2		4			
140			2		1	
136	1		3		2	
132	5		4			
128	1		5		2	1
124	3		5			
120	9		5	1	2	
116	3		3		4	1
112	6		7		2	
108	11	2	10	3	7	2
104	11	1	6	2	2	
100	7		2		1	
96	9		7		1	
92	8	1	5		3	
88	19	1	5		2	
84	5		2		1	
80	12		8	1	2	
76	7	1	5	1	1	
72	10		2			
68	4	1	2		4	
64	9	2				
60	6		4		1	
56	8	1	1			
52	10		1			
48	6					
44	2				1	
40	3		1			
36	1					
32	3					
28	3		1			
24	1					
20	2					
16						
12						
8						
4						
0-3						
Total	192	10	103	8	47	4
Q3	107.3		124.2		130.5	
Md	88.8	84.0	107.7	108.0	110.6	
Q1	65.3		85.5		91.5	
Range	21-162	56.0-110.0	30-158	77.0-122.0	47-158	108.5-130.0
10 %ile	50.8		72.6		70.7	
90 %ile	123.0		138.3		152.3	

---Medians, combined spring programs, 1948 and 1950

TABLE III

DISTRIBUTIONS OF SCORES OF INDIVIDUAL STUDENTS
AND MEDIAN SCORES OF INDIVIDUAL COLLEGES
ON ACHIEVEMENT TEST, LEVEL II, FORM A

Score	COLLEGES TESTING ON A REQUIRED BASIS PLUS CLASSES IN WHICH 90 PER CENT, OR MORE, OF THE STUDENTS VOLUNTARILY TOOK THE TEST		COLLEGES HAVING CLASSES IN WHICH LESS THAN 90 PER CENT OF THE STUDENTS VOLUNTARILY TOOK THE TEST	
	Scores of Individual Students	Median Scores of Individual Colleges	Scores of Individual Students	Median Scores of Individual Colleges
144+	1			
141	2			
138	1			
135	2			
132	4		1	
129	11			
126	7		2	
123	9		1	
120	17		1	
117	18			
114	15	1	1	
111	18	1	5	1
108	17	1	1	
105	21	2	1	
102	22	2	1	
99	7	1		
96	21	2		
93	11	2	1	
90	11	2	2	
87	9	1		
84	12			
81	16	1	1	
78	15		2	
75	6	1	2	
72	15		2	
69	6		4	1
66	7	1	3	
63	9		1	
60	6		2	1
57	9		3	
54	10		3	
51	4	1	1	
48	2		1	
45	7		1	1
42	3		1	
39	1		4	
36			1	
33	4		1	
30	2		2	
27	3			
24			2	
21-			1	
Total	361	19	55	4
Q3	113.5	105.4	102.8	
Md	97.8	96.8	69.4	
Q1	76.1	89.3	50.3	
Range	28-145	53.3-114.8	23-133	45.0-112.5
10 %ile	57.0	68.7	34.5	
90 %ile	123.3	111.3	115.5	

----Median, combined spring programs, 1949 and 1951

DISTRIBUTIONS OF SCORES OF INDIVIDUAL STUDENTS
AND MEDIAN SCORES OF INDIVIDUAL COLLEGES
ON ACHIEVEMENT TEST, LEVEL II, FORM D

Score	COLLEGES TESTING ON A REQUIRED BASIS PLUS CLASSES IN WHICH 90 PER CENT, OR MORE, OF THE STUDENTS VOLUNTARILY TOOK THE TEST		COLLEGES HAVING CLASSES IN WHICH LESS THAN 90 PER CENT OF THE STUDENTS VOLUNTARILY TOOK THE TEST	
	Scores of Individual Students	Median Scores of Individual Colleges	Scores of Individual Students	Median Scores of Individual Colleges
100				
98	1		2	
96	7		2	
94	4		2	
92	6			
90	25		4	
88	15		9	
86	17		6	
84	30		10	1
82	17		4	1
80	31		8	
78	41		17	
76	28		7	
74	32		14	2
72	54	5	19	
70	36	1	9	
68	33	2	11	1
66	53	1	9	1
64	36	2	8	1
62	47	3	14	
60	43	5	17	3
58	35	1	8	1
56	34	6	12	1
54	55	3	13	3
52	39	2	11	
50	31	1	4	
48	34	1	9	
46	25	2	6	
44	25	1	8	1
42	33		5	
40	26	1	3	
38	26		2	
36	39	2	12	1
34	20	3	5	1
32	14		6	
30	22	1	6	
28	19		1	
26	18		5	
24	31		2	
22	12		1	
20	10		1	
18	16		3	
16	5		2	
14	12			
12	8		2	
10	8	1		
8	8			
6	7		1	
4	3			
2	4			
0-1	5		1	
Total	1180	44	301	18
Q3	72.5	64.0	75.4	69.0
Md	58.1	57.3	62.6	60.7
Q1	40.6	48.0	48.7	55.0
Range	0-99	11.0-73.3	0-99	35.0-85.0
10 %ile	25.3	35.6	33.7	37.6
90 %ile	82.5	72.2	85.0	80.4

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

TABLE V

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

Score	VERBAL		Score	QUANTITATIVE		Score	TOTAL	
	Scores of Individ. Students	Median Scores of Individ. Colleges		Scores of Individ. Students	Median Scores of Individ. Colleges		Scores of Individ. Students	Median Scores of Individ. Colleges
99-100								
96						160		
93						155		
90			60			150		
87	1		58	2		145		
84			56	3		140		
81	9		54	2		135	4	
78	5		52	4		130	1	
75	5		50	9		125	8	
72	14		48	7		120	3	
69	8		46	10		115	9	
66	12		44	25		110	8	
63	31		42	23		105	21	
60	31		40	31		100	21	
57	30		38	42		95	29	
54	48	1	36	49	1	90	43	
51	59		34	46	1	85	52	
48	63	1	32	57	1	80	64	3
45	65		30	65		75	75	
42	71	4	28	88	1	70	78	
39	94	2	26	80	2	65	122	4
36	69	3	24	76	7	60	105	6
33	111	2	22	76	1	55	105	2
30	97	2	20	89	2	50	92	1
27	86		18	68		45	86	
24	81	1	16	56		40	65	
21	51		14	62		35	65	
18	36		12	46		30	33	
15	38		10	34		25	31	
12	20		8	32		20	19	
9	9		6	23		15	8	
6	7		4	20		10	3	
3	1		2	11		5	2	
0-2			0-1	16		0-4		
Total	1152	16	Total	1152	16	Total	1152	16
Q3	49.3	43.5	Q3	32.8	28.0	Q3	78.3	68.8
Md	37.7	39.0	Md	25.1	25.4	Md	63.2	64.2
Q1	28.6	34.5	Q1	17.6	24.3	Q1	48.6	60.8
Range	5-87	25.5-54.0	Range	0-58	21.0-36.5	Range	9-138	51.3-84.4
10 %ile	21.2	30.9	10 %ile	10.8	21.6	10 %ile	36.5	56.5
90 %ile	60.1	49.2	90 %ile	40.1	34.8	90 %ile	93.7	82.3

----Medians, combined spring programs, 1949 and 1950

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

VERBAL			QUANTITATIVE			TOTAL		
Score	Scores of Individ. Students	Median Scores of Individ. Colleges	Score	Scores of Individ. Students	Median Scores of Individ. Colleges	Score	Scores of Individ. Students	Median Scores of Individ. Colleges
99-100								
96						160		
93						155		
90			60			150		
87			58			145		
84			56			140		
81			54	3		135		
78	2		52			130		
75	2		50	3		125		
72	2		48	2		120		
69	2		46	4		115	5	
66	1		44	4		110	5	
63	3		42	5		105	2	
60	7		40	8		100	8	
57	10		38	12	2	95	5	
54	10		36	10		90	10	
51	11		34	10		85	13	
48	17		32	17	1	80	8	
45	17	2	30	16	1	75	25	1
42	10	1	28	14	1	70	19	3
39	11	2	26	16		65	14	2
36	13		24	11		60	20	
33	16	1	22	17	1	55	20	
30	11		20	6		50	4	
27	12		18	8		45	11	
24	11		16	5		40	7	
21	5		14	4		35	3	
18	5		12	4		30	2	
15	4		10	4		25	2	
12	1		8			20		
9			6			15		
6			4			10		
3			2			5		
0-2			0-1			0-4		
Total	183	6	Total	183	6	Total	183	6
Q3	52.2		Q3	37.1		Q3	85.9	
Md	42.8	42.0	Md	30.3	32.0	Md	72.2	71.7
Q1	32.1		Q1	23.7		Q1	59.2	
Range	14-80	33.0-47.6	Range	10-55	23.9-39.0	Range	28-118	65.0-75.0
10 %ile	24.9		10 %ile	18.3		10 %ile	47.0	
90 %ile	60.3		90 %ile	43.1		90 %ile	101.1	

----Medians, combined spring programs, 1949 and 1950

TABLE VII

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

VERBAL			QUANTITATIVE			TOTAL		
Score	Scores of Individ. Students	Median Scores of Individ. Colleges	Score	Scores of Individ. Students	Median Scores of Individ. Colleges	Score	Scores of Individ. Students	Median Scores of Individ. Colleges
99-100								
96						160		
93						155		
90			60			150		
87	1		58	1		145		
84	1		56	1		140	1	
81			54	2		135		
78	2		52	3		130		
75	3		50	2		125	2	
72	6		48	2		120	3	
69	8		46	5		115	7	
66	5		44	9		110	4	
63	10		42	4		105	6	
60	10		40	17		100	11	
57	7		38	11	1	95	14	
54	9	1	36	12		90	17	
51	9		34	7		85	9	1
48	16	1	32	14	1	80	18	1
45	12	1	30	19	1	75	14	1
42	13		28	8		70	13	
39	9		26	7		65	19	
36	17		24	13		60	7	
33	12		22	9		55	8	
30	6		20	6		50	3	
27	2		18	2		45	1	
24	1		16	5		40	3	
21	1		14			35		
18			12			30		
15			10			25		
12			8	1		20		
9			6			15		
6			4			10		
3			2			5		
0-2			0-1			0-4		
Total	160	3	Total	160	3	Total	160	3
Q3	61.8		Q3	40.7		Q3	97.9	
Md	49.3		Md	33.4		Md	83.3	
Q1	39.3		Q1	27.1		Q1	69.7	
Range	21-87	47.7-55.2	Range	8-58	31.0-38.5	Range	43-141	78.1-88.8
10 %ile	34.5		10 %ile	22.4		10 %ile	60.7	
90 %ile	70.9		90 %ile	46.0		90 %ile	111.3	

---Medians, combined spring programs, 1949 and 1950

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

VERBAL			QUANTITATIVE			TOTAL		
Score	Scores of Individ. Students	Median Scores of Individ. Colleges	Score	Scores of Individ. Students	Median Scores of Individ. Colleges	Score	Scores of Individ. Students	Median Scores of Individ. Colleges
99-100								
96						160		
93						155		
90			60	1		150		
87			58	3		145		
84	1		56			140		
81	3		54	3		135		
78	4		52	5		130		
75	9		50	9		125	4	
72	10		48	5		120	12	
69	18		46	13		115	10	
66	12		44	9		110	13	
63	15		42	17		105	22	
60	29		40	18	3	100	18	
57	24	3	38	8		95	25	1
54	17	2	36	28	2	90	24	5
51	12	2	34	20	1	85	30	1
48	28	1	32	12		80	21	1
45	18		30	24	2	75	23	
42	18		28	24		70	16	
39	10		26	14		65	18	
36	12		24	16		60	11	
33	9		22	14		55	11	
30	10		20	12		50	3	
27	2		18	2		45	2	
24	3		16	3		40	1	
21			14	3		35	1	
18	1		12			30		
15			10	1		25		
12			8	1		20		
9			6			15		
6			4			10		
3			2			5		
0-2			0-1			0-4		
Total	265	8	Total	265	8	Total	265	8
Q3	64.2		Q3	41.9		Q3	103.5	
Md	55.7	55.5	Md	34.7	37.0	Md	89.3	92.0
Q1	45.2		Q1	28.0		Q1	75.7	
Range	18-85	49.0-59.0	Range	9-60	31.3-41.5	Range	35-129	82.1-97.5
10 %ile	36.4		10 %ile	22.6		10 %ile	63.9	
90 %ile	72.2		90 %ile	47.9		90 %ile	114.8	

---Medians, combined spring programs, 1949 and 1950

TABLE IX

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

VERBAL			QUANTITATIVE			TOTAL		
Score	Scores of Individ. Students	Median Scores of Individ. Colleges	Score	Scores of Individ. Students	Median Scores of Individ. Colleges	Score	Scores of Individ. Students	Median Scores of Individ. Colleges
99-100								
96						160		
93						155		
90	1		60			150		
87			58			145		
84	1		56	2		140	1	
81			54	2		135		
78	2		52	1		130		
75	1		50	3		125	2	
72	2		48	2		120	2	
69	2		46	4		115	3	
66	8		44	3		110	2	
63	7		42	3		105	3	
60	3		40	2		100	4	
57	10		38	8		95	10	
54	5		36	4		90	6	1
51	5	1	34	9	1	85	8	
48	10	1	32	8	1	80	13	
45	8	1	30	5	1	75	8	1
42	12	1	28	13	1	70	9	2
39	10	1	26	7	1	65	10	1
36	6	2	24	9	1	60	15	2
33	13	1	22	6	1	55	10	
30	5		20	9		50	8	1
27	9		18	10	1	45	9	
24	10		16	11		40	4	
21	3		14	6		35	9	
18	3		12	3		30	2	
15	2		10	4		25	2	
12	2		8	3		20	1	
9	1		6	1		15		
6	1		4			10	1	
3			2	1		5		
0-2			0-1	3		0-4		
Total	142	8	Total	142	8	Total	142	8
Q3	57.5		Q3	35.7		Q3	88.4	
Md	43.5	42.0	Md	27.4	28.0	Md	70.0	70.0
Q1	32.7		Q1	18.7		Q1	54.7	
Range	6-91	35.3-52.5	Range	0-56	18.0-35.0	Range	12-141	52.5-92.5
10 %ile	24.7		10 %ile	13.5		10 %ile	39.6	
90 %ile	67.1		90 %ile	45.9		90 %ile	103.5	

-----Medians, combined spring programs, 1949 and 1950

DISTRIBUTIONS OF SCORES OF SECOND YEAR ACCOUNTING STUDENTS AND MEDIAN SCORES
OF SECOND YEAR CLASSES ON ORIENTATION TEST, FORM A, IN CLASSES WHERE LESS
THAN 90 PER CENT OF THE STUDENTS VOLUNTARILY TOOK THE TEST

Score	VERBAL		Score	QUANTITATIVE		Score	TOTAL	
	Scores of Individ. Students	Median Scores of Individ. Colleges		Scores of Individ. Students	Median Scores of Individ. Colleges		Scores of Individ. Students	Median Scores of Individ. Colleges
99-100								
96						160		
93						155		
90			60	1		150		
87			58	1		145		
84			56			140	1	
81	1		54	1		135		
78			52	1		130		
75			50	1		125		
72	1		48	2		120		
69	1		46			115	3	
66			44	4		110	2	
63	5		42	1	1	105	3	
60	2		40	3		100	1	
57	3	1	38	4		95	3	1
54	2		36	2	1	90	2	
51	2		34	3		85	3	
48	1		32	3	3	80	4	1
45	4	2	30	3		75	2	
42	2		28	2		70	7	3
39	7	3	26	3	2	65	4	1
36	9	1	24	3		60	4	1
33	1		22	2		55	3	
30	2		20	2		50	2	
27	2		18	4		45	2	
24	2		16	1		40	1	
21	1		14			35	2	
18			12	2		30	1	
15	1		10			25		
12	1		8	1		20		
9			6			15		
6			4			10		
3			2			5		
0-2			0-1			0-4		
Total	50	7	Total	50	7	Total	50	7
Q3	57.5		Q3	41.7		Q3	95.8	
Md	41.6	41.5	Md	33.3	33.0	Md	74.3	72.5
Q1	36.8		Q1	24.3		Q1	61.9	
Range	13-83	36.8-57.0	Range	9-60	26.5-43.0	Range	34-143	63.8-97.5
10 %ile	27.0		10 %ile	18.5		10 %ile	47.5	
90 %ile	64.8		90 %ile	50.0		90 %ile	112.5	

----Medians, combined spring programs, 1949 and 1950

TABLE XI

DISTRIBUTIONS OF SCORES OF THIRD YEAR ACCOUNTING STUDENTS AND MEDIAN SCORES OF THIRD YEAR CLASSES ON ORIENTATION TEST, FORM A, IN CLASSES WHERE LESS THAN 90 PER CENT OF THE STUDENTS VOLUNTARILY TOOK THE TEST

Score	VERBAL		Score	QUANTITATIVE		Score	TOTAL	
	Scores of Individ. Students	Median Scores of Individ. Colleges		Scores of Individ. Students	Median Scores of Individ. Colleges		Scores of Individ. Students	Median Scores of Individ. Colleges
99-100								
96						160		
93						155		
90			60			150		
87			58			145		
84			56			140		
81			54	2		135		
78	1		52			130	2	
75	3		50	3		125	2	
72	2		48	1		120	1	
69	1		46	4		115	1	
66	1		44	2		110	2	
63	2		42	2	1	105	2	
60	1	1	40	1		100	4	1
57	1		38	1	1	95	1	1
54	3		36	3	1	90		
51	6	1	34	2		85	6	
48	4		32	3		80	2	1
45	1	1	30	2		75	6	
42	3		28	2		70	1	
39	3		26	3		65	4	
36	1		24	3		60		
33	1		22	1		55	1	
30	1		20	1		50		
27			18			45		
24			16			40	1	
21			14			35		
18	1		12			30		
15			10			25		
12			8			20		
9			6			15		
6			4			10		
3			2			5		
0-2			0-1			0-4		
Total	36	3	Total	36	3	Total	36	3
Q3	64.5		Q3	46.5		Q3	107.5	
Md	52.5		Md	36.7		Md	87.5	
Q1	44.0		Q1	29.0		Q1	76.7	
Range	20-79	46.5-61.5	Range	20-55	37.0-42.0	Range	40-134	80.0-102.5
10 %ile	37.8		10 %ile	25.1		10 %ile	67.0	
90 %ile	75.4		90 %ile	50.9		90 %ile	126.0	

----Medians, combined spring programs, 1949 and 1950

DISTRIBUTIONS OF SCORES OF SENIOR ACCOUNTING STUDENTS AND MEDIAN SCORES
OF SENIOR CLASSES ON ORIENTATION TEST, FORM A, IN CLASSES WHERE LESS
THAN 90 PER CENT OF THE STUDENTS VOLUNTARILY TOOK THE TEST

VERBAL			QUANTITATIVE			TOTAL		
Score	Scores of Individ. Students	Median Scores of Individ. Colleges	Score	Scores of Individ. Students	Median Scores of Individ. Colleges	Score	Scores of Individ. Students	Median Scores of Individ. Colleges
99-100								
96						160		
93						155		
90	1		60			150		
87	7		58	2		145	1	
84	2		56			140	2	
81	5		54	5		135	5	
78	3	1	52	1		130	4	
75			50	5		125	4	
72	5		48	5		120	2	1
69	5		46	7	2	115	6	
66	2		44	5		110	5	
63	3	1	42	3	1	105	4	
60	5	1	40	11	1	100	4	2
57	3		38	3	1	95	5	2
54	2	1	36	8	1	90	7	1
51	5	2	34	4		85	8	
48	7		32	4		80	3	
45	4		30	3		75	3	
42	1		28	2		70	6	
39	4		26	2		65	2	
36	4		24			60		
33	5		22	1		55	2	
30	1		20	1		50	1	
27			18	1		45		
24			16			40		
21			14			35		
18			12	1		30		
15			10			25		
12			8			20		
9			6			15		
6			4			10		
3			2			5		
0-2			0-1			0-4		
Total	74	6	Total	74	6	Total	74	6
Q3	74.7		Q3	47.9		Q3	119.6	
Md	60.6	58.5	Md	41.3	42.0	Md	100.0	100.0
Q1	47.6		Q1	35.8		Q1	85.9	
Range	31-90	52.5-78.0	Range	12-58	36.5-46.5	Range	50-147	92.5-120.0
10 %ile	37.1		10 %ile	29.4		10 %ile	72.0	
90 %ile	87.3		90 %ile	53.2		90 %ile	135.6	

----Medians, combined spring programs, 1949 and 1950.

A NOTE ON THE CORRELATION OF A NEW HIGH SCHOOL ACCOUNTING
ORIENTATION TEST WITH THE OTIS QUICK-SCORING MENTAL ABILITY TEST
AND WITH THE AMERICAN COUNCIL ON EDUCATION PSYCHOLOGICAL EXAMINATION

by
Arthur E. Traxler

Since 1946 the American Institute of Accountants has made accounting Orientation and Achievement Tests available for use in colleges and in employment situations. A total of more than two hundred thousand tests has been given in approximately four hundred colleges throughout the United States and several thousand tests have been used by employers. The project office which handles the testing program for the Institute maintains a file of scores and percentile ranks on all college students tested.

As a result of numerous inquiries from high schools, a decision was reached in 1952 to extend the testing program downward to the secondary school level so that results of an accounting test would be available for use in guidance. Accordingly, the construction of an accounting orientation test for high school seniors was undertaken. The first step was to prepare four experimental forms of a forty-minute test from which two final forms were to be developed. Each form consisted of three parts--vocabulary, arithmetic reasoning, and accounting problems with all necessary facts given. The experimental forms were tried out with senior classes in several high schools holding membership in the Educational Records Bureau. In the administration of the tests at one of these high schools (the Highland Park High School, Highland Park, Illinois), the four forms were interleaved so that every fourth student took the same form. It was thought that through this procedure groups of approximately equal ability would take all four forms.

The main purpose of the experimental administration was to obtain data for statistical analysis of the individual test items. At the same time, an opportunity was created to correlate scores on each of the four forms with IQ's on the Otis Quick-Scoring Mental Ability Test and with scores on the American Council on Education Psychological Examination, 1946 College Freshman Edition, which were available in the files of the school. The resulting correlations are shown in Table XIII. Correlations of Otis IQ with ACE L-score and with ACE Q-score are also shown for comparative purposes.

There is obviously a considerable degree of positive correlation between this new test designed to measure accounting aptitude and these two widely used tests of scholastic aptitude. Although comparatively few of the correlations may be termed high, the majority are fairly substantial. Of sixteen correlations between scores on the Orientation Test and Otis IQ, fourteen are significant in the sense that they are more than four times their probable error. Of thirty-two correlations between scores on the Orientation Test and the American Council Psychological Examination, twenty-nine are statistically significant. Of eight correlations between scores on the ACE Psychological Examination and Otis IQ's, seven are significant. Approximately the same proportion of statistically significant correlations obtains throughout the three sets of correlations.

TABLE XIII

CORRELATIONS OF SCORES ON FOUR EXPERIMENTAL FORMS OF AMERICAN INSTITUTE OF ACCOUNTANTS
HIGH SCHOOL ORIENTATION TEST WITH IQ'S ON OTIS QUICK-SCORING MENTAL ABILITY TEST
AND WITH SCORES ON AMERICAN COUNCIL PSYCHOLOGICAL EXAMINATION,
1946 COLLEGE FRESHMAN EDITION, FOR SENIORS IN ONE HIGH SCHOOL
(Highland Park High School, Highland Park, Illinois)

Tests	Form 1			Form 2			Form 3			Form 4			Median of Corre- lations
	N	\bar{r}	P.E.	N	\bar{r}	P.E.	N	\bar{r}	P.E.	N	\bar{r}	P.E.	
Orientation-Vocabulary vs. Otis IQ	57	.483 ± .069		57	.714 ± .044		53	.811 ± .032		51	.639 ± .056		.68
Orientation-Arith.Reas. vs. Otis IQ	57	.310 ± .081		57	.639 ± .053		53	.590 ± .060		51	.250 ± .089		.45
Orientation-Acct. Prob. vs. Otis IQ	57	.394 ± .076		57	.531 ± .064		53	.729 ± .043		51	.409 ± .079		.47
Orientation-Total vs. Otis IQ	57	.481 ± .069		57	.743 ± .040		53	.773 ± .037		51	.643 ± .055		.69
Orientation-Vocabulary vs. ACE L-score	43	.495 ± .078		41	.730 ± .059		43	.828 ± .032		36	.193 ± .108		.61
Orientation-Arith.Reas. vs. ACE L-score	43	.226 ± .098		41	.553 ± .073		43	.557 ± .071		36	.464 ± .088		.51
Orientation-Acct. Prob. vs. ACE L-score	43	.437 ± .083		41	.385 ± .090		43	.609 ± .065		36	.462 ± .089		.45
Orientation-Total vs. ACE L-score	43	.538 ± .073		41	.668 ± .058		43	.741 ± .046		36	.631 ± .068		.65
Orientation-Vocabulary vs. ACE Q-score	43	.434 ± .084		41	.320 ± .095		43	.532 ± .074		36	.477 ± .087		.46
Orientation-Arith.Reas. vs. ACE Q-score	43	.574 ± .079		41	.589 ± .079		43	.727 ± .049		36	.698 ± .058		.64
Orientation-Acct. Prob. vs. ACE Q-score	43	.519 ± .075		41	.479 ± .081		43	.625 ± .063		36	.472 ± .087		.50
Orientation-Total vs. ACE Q-score	43	.555 ± .072		41	.606 ± .067		43	.726 ± .049		36	.673 ± .061		.64
Tests	Correlation Based on Group Taking Orientation Test, Form 1			Correlation Based on Group Taking Orientation Test, Form 2			Correlation Based on Group Taking Orientation Test, Form 3			Correlation Based on Group Taking Orientation Test, Form 4			
ACE L-score vs. Otis IQ	43	.592 ± .067		41	.674 ± .058		43	.787 ± .039		36	.192 ± .108		.63
ACE Q-score vs. Otis IQ	43	.626 ± .063		41	.497 ± .079		43	.716 ± .050		36	.424 ± .092		.56

Medians of the four correlations of each type are shown in the column at the right. These medians range from .45 for arithmetic reasoning vs. Otis IQ, and for accounting problems vs. ACE L-score, to .69 for Orientation total score vs. Otis IQ. It will be observed that, on the whole, the new accounting orientation test appears to be about as closely related to the Otis test and to the American Council Psychological Examination as these two tests of scholastic aptitude are related to one another. It should be noted, too, that these correlations are based on the experimental forms of the orientation test. Since the final forms are composed of what appear to be the best items in the experimental forms, the correlation of these forms with outside criteria may be a little higher than those obtained with the experimental edition.

While the correlations shown in Table XIII do not indicate that the new accounting orientation test could be used as a direct substitute for the Otis test or the ACE psychological examination, they do suggest that the orientation test may have definite possibilities for use in measuring what might be called the "business intelligence" of students near the end of high school.

The final form of the new accounting orientation test will be released in September, 1953, for regular use in high schools.