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**College accounting testing program bulletin no. 45; Results of the Spring, 1962, college accounting testing program, Including a brief research report**

American Institute of Certified Public Accountants. Committee on Personnel Testing

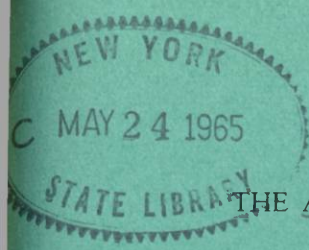
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THE AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS  
COLLEGE ACCOUNTING TESTING PROGRAM

Bulletin No. 45

RESULTS OF THE  
SPRING, 1962, COLLEGE ACCOUNTING TESTING PROGRAM  
*Including a Brief Research Report*

Prepared by  
Committee on Personnel Testing  
21 Audubon Avenue  
New York 32, N. Y.

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Committee on Personnel Testing

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Robert D. North, Associate Director  
Thomas Mahorney, College Program Supervisor

INSTITUTIONS PARTICIPATING IN 1962 SPRING PROGRAM

Adams State College	Colorado State College	College of the Holy Cross
Adelphi College	Colorado State University	Hope College
A & M College of Texas	University of Colorado	University of Houston
University of Akron	Concord College	Humboldt State College
University of Alabama		Humphreys College
American Institute of Business	Dana College	
Anchorage Community College	David Lipscomb College	College of Idaho
Anderson College	University of Dayton	Idaho State College
Arizona State College	Defiance College	Illinois Institute of Technology
Arizona State University	Delta College	Immaculata College
Arkansas State College	De Paul University	Indiana Central College
Ashland College	De Pauw University	Indiana State College
Assumption University of Windsor	Detroit Business Institute	Iona College
Atlantic Union College	University of Detroit	State College of Iowa
Aurora College	Dickinson College	State University of Iowa
Austin Peay State College	Drake University	Ithaca College
	University of Dubuque	
	Duff's Iron City Business Institute	Jackson Junior College
	Duquesne University	Jacksonville University
Babson's Midwest Institute		Jamestown College
Badger Green Bay Business College	East Carolina College	John Carroll University
Ball State Teachers College	East Tennessee State College	
University of Baltimore	Elizabethtown College	Kansas State College of Pittsburg
Bellarmino College	Elon College	Kent State University
Berkshire Community College	Emory & Henry College	
Bismarck Junior College	Erie Business Center	Lamar State College of Technology
Bowling Green College of Commerce	Estherville Junior College	La Verne College
Bowling Green State University	Eureka College	Lawrence College
Bradley University		Lebanon Valley College
Bridgewater College	Fairfield University	Lee College
Brigham Young University	Fenn College	Le Moyne College
Brooklyn College	Flint College	Lewis & Clark College
Bryant College	Flint Junior Community College	Little Rock University
Burdett College	Florence State College	Long Beach City College
	Florida Southern College	University of Louisville
	University of Florida	Luther College
	Fort Lewis A & M College	Lycoming College
		Manchester College
California State Polytechnic College	Gallaudet College	Manhattan College
Calvin College	Gannon College	Marquette University
Canisius College	Gettysburg College	University of Massachusetts
Carson-Newman College	Graceland College	Memphis State University
Catawba College	Greenville College	Merrimack College
Central Michigan University		University of Miami
Chaffey College	Hampton Institute	Middlebury College
University of Chattanooga	Hanover College	Midland College
Colorado College	Harpur College	Millikin University
	Heidelberg College	Millsaps College
	Hofstra College	Mississippi College

INSTITUTIONS PARTICIPATING IN 1962 SPRING PROGRAM (CONTINUED)

University of Mississippi	Rochester Institute	Spencerian College
Monmouth College	of Technology	Strayer Junior College
Montana State College	Roosevelt University	of Finance
Moravian College	Rutgers, The State	Susquehanna University
Morningside College	University	
Muskegon School		Taylor University
of Business	St. Ambrose College	Tennessee Wesleyan
	St. Francis College	College
Nasson College	(New York)	University of Tennessee
New York State Ag.-Tech.	St. Francis College	Texas College of Arts
Institute (Alfred)	(Pennsylvania)	& Industries
New York State Ag.-Tech.	St. John's University	Texas Lutheran College
Institute (Cobleskill)	St. Joseph's College	Texas Western College
Newberry College	St. Martin's College	Thompson Institute
Niagara University	St. Mary's College	
Nichols College of	St. Mary's University	Union College
Business Administration	St. Michael's College	Union Junior College
University of	St. Norbert College	
North Carolina	St. Olaf College	Villa Madonna College
Northern Illinois	St. Vincent College	Virginia Junior College
University	Salisbury Business	Virginia Polytechnic
Northern State Teachers	College	Institute
College	Sam Houston State	Virginia State College
Northland College	Teachers College	
	San Benito College	Wake Forest College
Ohio State University	San Diego City College	Walla Walla College
University of Omaha	University of San Diego	Walsh Institute of
Orange County Community	City College of	Accountancy
College	San Francisco	Washington & Lee
Ottawa University	University of	University
	San Francisco	West Liberty State
Pacific Union College	College of	College
University of the Pacific	the Sequoias	West Texas State
Parsons College	Seton Hall University	College
Peirce School of	Shasta College	West Virginia State
Business Administration	Siena College	College
Pennsylvania Military	Skagit Valley College	West Virginia University
College	University of	West Virginia Wesleyan
Pennsylvania State	South Carolina	College
University	State University	Western Michigan
University of Pennsylvania	of South Dakota	University
Pfeiffer College	University of	Western State College
Port Huron Junior College	South Florida	Wheaton College
Providence College	Southern Illinois	Wheeling College
	University	Wilkes College
Queens College	Southern Missionary	Willamette University
	College	College of William
Regis College (Colorado)	Southwestern University	and Mary
Regis College	University of	Wisconsin State College
(Massachusetts)	Southwestern Louisiana	University of Wisconsin
Rider College	Springfield Junior	Woodbury College
Riverside City College	College	University of Wyoming

## INTRODUCTION

The spring, 1962 College Accounting Testing Program is the sixteenth annual spring program to be offered to institutions by the American Institute of Certified Public Accountants. This bulletin reports the results of the current spring program.

Table I indicates graphically and numerically the slight variations in the last five spring programs. The number of participants in the spring, 1962 program decreased by 19, or 7.5 per cent compared to the preceding spring program, but the number of tests used increased by 174, or 1.1 per cent over the 1961 program.

TABLE I

Volume of Tests Used and Number of Participating Colleges  
in Spring Programs During Past Five Years

Program	Colleges	Tests Used
1958	214	13,654
1959	234	13,398
1960	214	12,597
1961	254	15,362
1962	235	15,536

The two forms of the Level I Achievement Test, designed for use in the first, second, and third years of accounting study, are the measures that are used in the largest quantities in the spring programs. Table II illustrates the overall use of the tests this spring. The Level I tests account for over two-thirds of the total.

TABLE II

Number of Different Tests Used in 1962 Spring Program

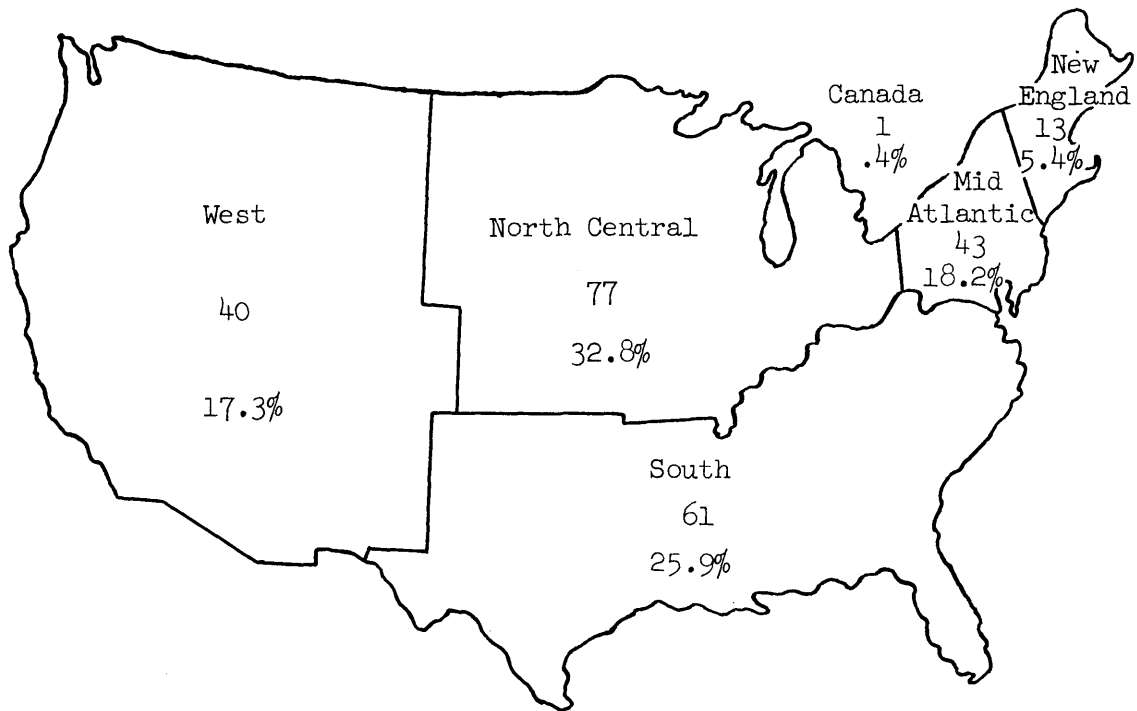
## Achievement Tests

Level I, Short Form	5356	34%
Level I, 2-Hour Form	5500	35%
Level II, 2-Hour Form	2242	14%
Level II, 4-Hour Form	658	4%
Orientation Test	1682	11%
Other Tests	276	2%

The "other tests" category includes 98 Strong Vocational Interest Blanks and 178 alternate forms of the Orientation and Achievement Tests that were administered for counseling purposes, re-testings, and local comparative evaluation.

TABLE III

Participation, by Geographical Regions, in 1962 Spring Program



Forty-three states, the District of Columbia, and Canada were represented. The North Central group had a slight increase in representation this program. The New England states and the West, including Alaska, both had approximately the same percentage of the total participation and the same number of participants as in the 1961 spring program. The South showed a small decrease in the number of participating colleges, and the greatest decrease was in the Middle Atlantic section (11 schools less), although Pennsylvania and New York of this section had 20 and 18 participating institutions, respectively. California also had 18; Illinois and Michigan had 13 each; Iowa and Texas, 11 each; Ohio, 10; Indiana and Tennessee, 9 each; Colorado, Massachusetts, and Wisconsin, 8 each; North Carolina and Virginia, 7 each; and West Virginia, 6. The twenty-eight other states and Canada had from 1 to 5 participants each.

TABLE IV

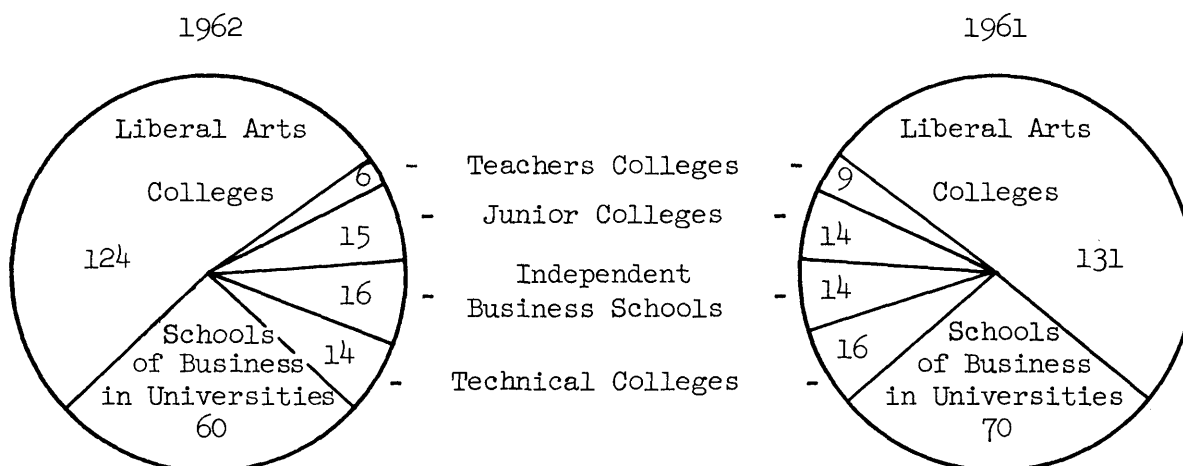
Participation, by Geographical Regions, in 1961 and 1962 Spring Programs

Region	1962 Spring Program		1961 Spring Program	
	Number	Per Cent	Number	Per Cent
New England	13	5.4	13	5.1
Middle Atlantic	43	18.2	54	21.3
North Central	77	32.8	78	30.7
South	61	25.9	65	25.6
West	40	17.3	42	16.5
Canada	1	0.4	1	0.4
Puerto Rico			1	0.4
Total	235	100.0	254	100.0



TABLE V

Participation, by Types of Colleges, in 1961 and 1962 Spring Programs



All of the AICPA accounting tests are available for use by colleges in the fall, midyear, and spring programs. The Project Office also scores and reports on testings throughout the year, outside the three formal programs. More than 675 colleges have participated in the 45 programs that have been conducted since the inception of the College Accounting Testing Program in 1946.

Activities outside the regular College Accounting Testing Program this spring were:

#### RESEARCH STUDIES:

Montana State College, based on 123 Achievement Tests, Level I, Form A  
 Washington University, based on 141 Achievement Tests, Level I, Form A-S

#### SCHOLARSHIP PROGRAMS:

Kansas Society of CPA's, which administered 1,140 High School Orientation Tests to students in 31 Kansas high schools  
 New Mexico Society of CPA's, which administered 31 Achievement Tests, Level II, Form C, to seniors in 7 colleges

The total number of tests used in the fall, midyear, and spring programs of the 1961-1962 academic year was 28,794, which was about 6.5 per cent more than the 1960-1961 volume of 26,946.



## SUMMARY OF TEST RESULTS

Distributions of the scores and college medians for the recommended forms of the Orientation and Achievement Tests are shown in the tables on the following pages. Indicated numerically at the bottom of each distribution are: the number of students tested and the number of colleges; the median, quartiles, range, and the 90th and 10th percentile points. Medians are not reported for less than five frequencies, nor are quartiles, 90th, and 10th percentile points shown for less than fifteen frequencies.

The medians are shown graphically by the short horizontal lines adjacent to the distributions. The ranges of the middle 50 per cent of the scores are marked by the vertical lines parallel to the distributions. Norm medians, based on results obtained in earlier programs, are indicated by broken lines extending across the distribution columns.

The Q<sub>3</sub>, median, and Q<sub>1</sub> points are the scores that divide the distributions into fourths. A Q<sub>3</sub> entry in a column signifies that one-fourth of the students tested had scores above that point, and that three-fourths of the students fell below it. At the other end of a distribution, a Q<sub>1</sub> entry represents the point below which one-fourth of the students' scores fell. The median denotes the midpoint in the distribution. The 90th percentile and 10th percentile points separate the highest 10 per cent and the lowest 10 per cent of the distribution from the other 80 per cent.

A summary of the results of the various tests is given below.

ACHIEVEMENT TEST, LEVEL I, FORMS A-S AND A. - The distributions of scores and class medians for the first-year and second-year students who took the fifty-minute Form A-S of the Level I Achievement Test are shown in Table VI. At the first-year level, the median for the 4,781 students closely parallels the norm median. The median for the smaller group of 226 second-year students exceeds the earlier established norm by 3.5 points.

On the two-hour Level I Test, Form A, there is very little difference between the spring, 1962 median for 3,814 first-year accounting students and the established norm median based on the combined spring programs of 1959-1961. The first column of Table VII shows a .2 of a point decrease for the current first-year median. The median for 1,049 second-year students shown in the second column is 2.1 points lower than the norm median based on the spring programs of 1956 through 1961. In the third column, the small group of 71 third-year students have a median that is 4.4 points higher than the 1956-1961 "national" norm median.

Table VIII reports the results of 179 first-year students in six colleges that offered Form A-S on a voluntary basis and of 213 first-year students in ten colleges who took Form A on a voluntary basis. In the first column, the median is .9 of a point higher than the spring 1959-1961 norm median. In the second column, the median is .4 of a point above the "national" 1959-1961 norm median.

ACHIEVEMENT TEST, LEVEL II, FORM F. - Form F of the two-hour Level II test was expressly constructed for use in senior accounting classes and was introduced in the spring, 1962 program after several earlier trials. The first column of Table IX shows the wide range of scores of 1,746 seniors in accounting who took this test. Since this is the first regular program usage of Form F, no norm medians from earlier programs are available for comparisons.

Although the majority of colleges prefer to administer the AICPA tests on a required-participation basis, five colleges offered the test to 65 seniors on

a voluntary-participation basis, and the results are shown in the second column. There is very little difference between the medians for this group of colleges and the norm medians.

A sizable group of 24 colleges used the new Form F of the Level II test with 398 second-year and third-year students in accounting. The median for this group, as shown in the third column, falls six points below that of the senior group that was tested on a required-participation basis this spring.

ACHIEVEMENT TEST, LEVEL II, FORM B. - This test is used consistently by colleges that prefer a four-hour form of the Level II test for seniors in accounting. Table X reports the results for 531 seniors in 30 colleges that used the test this spring. The current median is 6.4 points below the norm median for the combined spring programs of 1956-1961.

ORIENTATION TEST, FORM A-REVISED. - This revision of the fifty-minute aptitude test was introduced in the spring, 1961 program. The norms are based on the results of 1,400 first-year students in 30 colleges who took the test initially last spring. Tables XI and XII show that the medians of the current groups parallel the earlier established norms very closely. On the verbal (vocabulary and reading) part of the test, the median for the 1,398 first-year students in the first column of Table XI is .1 of a point below the spring, 1961 "national" median. The quantitative median, shown in the second column, is .4 of a point below the spring, 1961 norm median, and the current total median is under the earlier norm median by .2 of a point.

The medians for the smaller group of first-year students who took the test on a voluntary basis, as shown in Table XII, are within two points of the spring, 1961 norm medians. These very small variations between the Orientation Test results of the spring, 1961 and the spring, 1962 programs indicate that the groups tested in the two programs were very similar in accounting aptitude.

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Note: Copies of this bulletin, marked to show the placement of the college's own medians, will be sent to each participating institution.

TABLE VI

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 OR MORE TOOK IT ON A VOLUNTARY BASIS

Score	FIRST YEAR		SECOND YEAR	
	Scores of Individuals	Medians of Colleges	Scores of Individuals	Medians of Colleges
60	5		1	
58	1		7	
56	16		16	
54	30		8	
52	63		17	
50	59		15	2
48	113		14	
46	118		12	
44	231		19	1
42	203	1	13	
40	307	6	21	2
38	255	5	13	3
36	313	7	16	
34	267	11	15	1
32	350	15	13	
30	279	13	13	
28	285	7	13	1
26	257	4	8	
24	300	7	7	
22	231	5	5	
20	224	1	7	
18	172	1	2	
16	174	2	2	
14	121	1	6	
12	139		1	
10	80			
8	74		2	
6	55			
4	31			
2	9			
0-1	19			
Total	4781	86	266	10
Q3	39.6	35.5	49.6	
Md	31.6	32.3	41.0	40.0
Q1	22.8	28.1	32.1	
Range	0-60	14.8-42.3	8-60	29.7-51.6
90 %ile	45.4	39.4	55.4	
10 %ile	15.2	23.4	24.5	

-----Median, combined spring programs, 1959 through 1961

-----Median, combined spring programs, 1956 through 1961

TABLE VII

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 OR MORE TOOK IT ON A VOLUNTARY BASIS

Score	FIRST YEAR		SECOND YEAR		THIRD YEAR	
	Scores of Individuals	Medians of Colleges	Scores of Individuals	Medians of Colleges	Scores of Individuals	Medians of Colleges
120						
117						
114						
111	3		1			
108	3		3		1	
105	9		6		1	
102	3		8		1	
99	11		15		4	
96	18		18		6	
93	23		26		2	
90	43		36		2	
87	48		40	1	6	1
84	58		45	1	3	1
81	72		52	3	5	1
78	83		56	3	3	2
75	124	3	56	4	6	1
72	119	2	55	1	7	1
69	163	1	52	2	8	1
66	188	5	52	3	1	
63	202	6	69	6	4	
60	207	8	57	1	1	
57	213	4	49	5	2	
54	229	6	51	1	1	
51	251	8	49		4	
48	227	5	45	1	2	
45	200	5	31			
42	206	6	34	1		
39	192	6	29	1		
36	170	2	34			
33	122	2	10			
30	130	2	21			
27	108	1	13			
24	111		9			
21	84		7		1	
18	62		6			
15	45		5			
12	29		2			
9	23		4			
6	15		1			
3	10					
0-2	10		2			
Total	3814	72	1049	34	71	8
Q3	69.2	62.6	80.3	77.6	89.6	
Md	52.9	53.6	65.8	67.0	77.3	79.5
Q1	39.5	44.5	51.6	59.7	69.7	
Range	0-112	27.0-77.7	0-111	39.0-87.5	23-109	70.5-88.5
90 %ile	77.8	68.3	90.7	82.6	99.0	
10 %ile	26.8	39.1	38.2	55.2	54.3	

---Median, combined spring pro-  
grams, 1959 through 1961

----Median, combined spring programs,  
1956 through 1961

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

Score	FORM A-S		Score	FORM A	
	Scores of Individuals	Medians of Colleges		Scores of Individuals	Medians of Colleges
			120 ~::~~		
			102	1	
			99	1	
			96		
			93	3	
60			90		
58			87	1	
56	3		84	3	
54	1		81	3	
52	3		78	1	
50	4		75	7	
48	3		72	14	
46	3		69	4	
44	6		66	15	
42	9		63	6	1
40	9		60	14	2
38	7		57	19	1
36	17	1	54	13	2
34	14		51	9	1
32	18	2	48	10	1
30	8	1	45	18	
28	13		42	13	
26	8		39	13	
24	4		36	11	1
22	5	1	33	7	1
20	8		30	6	
18	9		27	7	
16	6	1	24	3	
14	3		21	4	
12	8		18	3	
10	1		15	3	
8	5		12		
6	2		9	1	
4			6		
2	1		3		
0-1	1		0-2		
Total	179	6	Total	213	10
Q3	38.9		Q3	65.9	
Md	32.8	32.0	Md	53.5	55.5
Q1	22.3		Q1	40.9	
Range	0-57	16.5-37.0	Range	11-103	34.5-63.0
90 %ile	45.7		90 %ile	74.7	
10 %ile	14.0		10 %ile	30.2	

----Median, combined spring programs,  
1959 through 1961

----Median, combined spring programs,  
1959 through 1961

TABLE IX

DISTRIBUTIONS OF SCORES AND COLLEGE MEDIANS ON ACHIEVEMENT TEST, LEVEL II, FORM F

Score	SENIOR CLASSES		COMBINED SECOND-YEAR AND THIRD-YEAR CLASSES			
	REQUIRED		VOLUNTARY		REQUIRED	
	Scores of Individuals	Medians of Colleges	Scores of Individuals	Medians of Colleges	Scores of Individuals	Medians of Colleges
90						
80	2					
78						
76	1					
74	2					
72	3					
70	1					
68	7		2			
66	16		1			
64	8					
62	19		1		1	
60	22		2		4	
58	27		1		3	
56	35		4	1	2	
54	50		2		4	
52	46	2	4		10	
50	79	1			8	
48	64	4	3		7	
46	88	1	1		8	
44	78	4	2		12	1
42	83	7	3		17	1
40	86	3	3		18	
38	112	11	1		17	1
36	93	6	4	1	28	2
34	99	10	3	1	26	5
32	106	11	1		22	2
30	114	7	9	1	28	2
28	81	4	1	1	21	1
26	102	5			28	3
24	77	2	3		17	1
22	60	1	6		13	2
20	49		1		21	
18	48		2		20	2
16	24		2		14	1
14	30				21	
12	7		1		11	
10	13				6	
8	4		1		3	
6	4		1		2	
4	4				3	
2	2				2	
0-1					1	
Total	1746	79	65	5	398	24
Q3	46.8	41.5	52.4		39.4	35.6
Md	37.1	35.9	36.8	35.0	31.1	32.0
Q1	28.3	32.1	25.5		21.6	26.0
Range	2-81	23.0-53.7	7-69	28.0-56.5	0-63	17.0-44.0
90 %ile	54.7	46.2	59.0		47.8	39.2
10 %ile	21.6	28.0	19.5		15.1	19.4



TABLE X

DISTRIBUTIONS OF SCORES AND COLLEGE MEDIANS ON ACHIEVEMENT TEST,  
LEVEL II, FORM B, IN SENIOR CLASSES

Score	Scores of Individuals	Medians of Colleges
150		
129	1	
126	3	
123	2	
120	4	
117	4	
114	2	
111	10	
108	7	
105	13	
102	15	
99	23	2
96	24	3
93	16	
90	27	
87	19	2
84	25	4
81	29	2
78	24	1
75	28	2
72	22	1
69	28	5
66	30	4
63	30	2
60	25	1
57	18	
54	24	1
51	19	
48	11	
45	8	
42	7	
39	11	
36	6	
33	4	
30	3	
27	5	
24	3	
21	1	
0-2		
Total	531	30
Q3	92.0	86.6
Md	76.1	76.5
Q1	61.5	68.6
Range	23-131	56.0-100.5
90 %ile	103.6	98.0
10 %ile	49.4	64.5

----Median, combined spring programs, 1956 through 1961

TABLE XI

DISTRIBUTIONS OF SCORES AND COLLEGE MEDIANS ON ORIENTATION TEST, FORM A-REVISED  
IN FIRST-YEAR 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 Individuals	Medians of Colleges	Score	Scores of Individuals	Medians of Colleges	Score	Scores of Individuals	Medians of Colleges
90			60	1		150		
87			58	2		145		
84			56			140		
81	2		54	3		135	1	
78	1		52	10		130	3	
75	4		50	9		125	3	
72	4		48	30		120	2	
69	12		46	14		115	6	
66	17		44	31		110	9	
63	22		42	35		105	21	
60	25		40	40		100	27	
57	40		38	49	1	95	27	
54	44		36	46		90	47	
51	77		34	63	1	85	80	
48	56	1	32	71	1	80	79	1
45	80	1	30	79	3	75	90	2
42	91	3	28	96	6	70	113	4
39	121	6	26	105	4	65	119	7
36	108	4	24	108	6	60	126	4
33	133	6	22	108	3	55	142	6
30	121	2	20	110	2	50	134	2
27	134	4	18	97	1	45	115	2
24	90	1	16	72		40	91	
21	86		14	62		35	59	
18	48		12	51		30	39	
15	34		10	31		25	29	
12	21		8	25		20	20	
9	12		6	17		15	13	
6	9		4	16		10	1	
3	6		2	10		5	2	
0-2			0-1	7		0-4		
Total	1398	28	Total	1398	28	Total	1398	28
Q3	46.3	41.0	Q3	33.5	29.7	Q3	77.5	70.0
Md	36.1	36.8	Md	25.7	27.0	Md	62.1	65.0
Q1	28.0	33.0	Q1	19.2	24.3	Q1	49.2	57.5
Range	4-83	25.5- 48.8	Range	0-60	19.0- 39.0	Range	5-136	48.3- 84.6
90 %ile	56.1	44.2	90 %ile	41.8	32.4	90 %ile	90.7	75.5
10 %ile	21.3	28.4	10 %ile	13.3	21.8	10 %ile	38.0	52.0

----Medians, spring program, 1961

TABLE XII

DISTRIBUTIONS OF SCORES AND COLLEGE MEDIANS ON ORIENTATION TEST, FORM A-REVISED  
 IN FIRST-YEAR CLASSES WHERE THE TEST WAS TAKEN ON  
 A VOLUNTARY BASIS BY LESS THAN 90 PER CENT OF THE CLASS

VERBAL			QUANTITATIVE			TOTAL		
Score	Scores of Individuals	Medians of Colleges	Score	Scores of Individuals	Medians of Colleges	Score	Scores of Individuals	Medians of Colleges
90			60			150		
87			58			145		
84			56			140		
81			54			135		
78			52	1		130		
75			50			125		
72	1		48	1		120		
69			46	1		115		
66	3		44	2		110	2	
63	2		42	3		105	3	
60	1		40	4		100	2	
57			38	2		95	1	
54	4		36	2		90	2	
51	4		34	6		85	2	
48	3		32	7		80	5	
45	8	1	30	7		75	8	1
42	8		28	10	2	70	11	
39	2	1	26	4	1	65	5	
36	12		24	7		60	10	1
33	10	2	22	8		55	9	1
30	3		20	8	1	50	10	2
27	6		18	5		45	7	
24	8	1	16	7	1	40	9	
21	10		14	2		35	3	
18	6		12	3		30	6	
15	4		10	2		25	2	
12	2		8	3		20		
9			6	1		15		
6	1		4	2		10	1	
3			2			5		
0-2			0-1			0-4		
Total	98	5	Total	98	5	Total	98	5
Q3	45.6		Q3	33.3		Q3	75.3	
Md	35.7	35.3	Md	26.5	27.0	Md	61.0	57.5
Q1	24.6		Q1	19.8		Q1	47.5	
Range	6-73	26.3- 46.0	Range	4-53	17.0- 29.3	Range	11-112	52.5- 77.5
90 %ile	54.9		90 %ile	41.1		90 %ile	90.5	
10 %ile	19.4		10 %ile	13.2		10 %ile	36.3	

-----Medians, spring program, 1961



A FURTHER REPORT ON THE RELIABILITIES OF THE ORIENTATION TEST (REVISED)  
AND CORRELATIONS AMONG SOME OF THE COLLEGE PROGRAM TESTS

By

Robert D. North

Orientation Test Reliabilities

With the introduction of the revised edition of the Orientation Test in the 1960 fall program, a report of the reliability of Form B was published in the bulletin for that program.<sup>1</sup> Now that the revisions of Forms A and C have been used in subsequent programs, reliability data for these forms are available. The reliability coefficients,<sup>2</sup> based on samples of first-year students tested during the 1961 midyear and spring programs, are shown in Table I, along with the reliabilities obtained earlier for the other forms.

TABLE I

RELIABILITIES OF THE REVISED EDITION OF THE ORIENTATION TEST FOR FIRST-YEAR COLLEGE STUDENTS, WITH THE RELIABILITIES OF THE EARLIER EDITION SHOWN FOR COMPARISON

Edition	Score	No. of Items	Working Time (Minutes)	Reliability (Spearman-Brown)		
				Form A (N=251)	Form B (N=200)	Form C (N=225)
Revised	Verbal	90	25	.92	.92	.89
	Quantitative	30	25	.85	.90	.82
	Total	120	50	.92	.94	.89
Original	Verbal	100	25	(N=221) .82	(N=210) .93	(N=256) .72
	Quantitative	30	25	.86	.89	.72
	Total	130	50	.89	.94	.80

It is worth noting that the reliabilities of the part and total scores of the revised edition of Form C are substantially higher than the corresponding reliabilities of the original Form C. The increase in the reliability of the verbal part of Form A, accomplished through the revision, is also noteworthy.

Reliabilities near or above .90 are usually considered desirable for scores that are to be used as a basis for individual diagnosis or evaluation. From this point of view, the reliabilities of the verbal and total scores of all three

<sup>1</sup>Robert D. North. "Reliabilities of the Orientation Test, Form B (Revised) and the Level II Achievement Test, Form E," Results of the Fall, 1960 College Accounting Testing Program, pp. 15-16. The American Institute of Certified Public Accountants, College Accounting Testing Program, Bulletin No. 40. New York: Committee on Personnel Testing, February, 1961.

<sup>2</sup>The reliability coefficients were computed by the split-half method, in which the scores for the odd numbered items are correlated with the scores for the even numbered items, and then the reliability for the full-length test is estimated through the application of the Spearman-Brown formula.

revised forms, and of the quantitative scores of Form B, may be considered to be satisfactory. Since the reliabilities of the quantitative scores of Form A (Revised) and Form C (Revised) are not quite up to par, these part-scores should be interpreted cautiously, and supporting evidence should be sought from re-testings or other sources.

#### Relation Between the Level I and Level II Achievement Test Scores

Some six years ago, data were published concerning the relation between first-year scores on the Level I Achievement Tests and senior-year scores on the Level II Achievement Tests.<sup>3</sup> The median correlation of the scores on the two levels of the test over a three-year interval was .57. As an extension of that study, data from recent programs have been analyzed to evaluate the utility of the Level I, Form A and Form A-S, tests as predictors of senior-year achievement as measured by the Level II, Form E, test. The results are shown in Tables II and III.

TABLE II

RELATION BETWEEN QUARTER RANKINGS ON THE LEVEL I, FORM A, ACHIEVEMENT TEST AND THE LEVEL II, FORM E, ACHIEVEMENT TEST OF 122 STUDENTS IN 16 COLLEGES

(Percentage entries are based on the number of students in each quarter of the Level I test. The correlation between the scores of the two levels of the test is .64)

Quarter Ranking on Level I, Form A, Test	Quarter Ranking on Level II, Form E, Test				Total
	(Lowest) 4	3	2	(Highest) 1	
(Highest) 1	3 (5%)	12 (22%)	18 (32%)	23 (41%)	56
2	12 (37%)	9 (27%)	6 (18%)	6 (18%)	33
3	11 (44%)	7 (28%)	6 (24%)	1 (4%)	25
(Lowest) 4	5 (63%)	2 (25%)	1 (12%)	----	8
Total	31	30	31	30	122

For the group of 122 students who took the Level I, Form A, Achievement Test in their first year of accounting study and the Level II, Form E, test in their senior year, the correlation between the scores on the two tests is .64 (Table II). The classification of the students in terms of their quarter rankings shows that 56 individuals, or almost half of the group, ranked in the top quarter of the Level I Achievement Test norms as first-year students. Of these, 41 per cent ranked in the top quarter of the Form E Achievement Test norms as seniors, while only 5 per cent ranked in the lowest quarter on this test. Scores in the top quarter of the Level II Achievement Test norms were obtained by only 18 per cent of the students who ranked in the second quarter of the Level I test norms.

<sup>3</sup>Robert D. North. "Relation Between Scores on the AIA Elementary and Advanced Accounting Achievement Tests," The Accounting Review, Vol. XXXI, No. 1, January, 1956.

It may be observed that approximately a fourth of the total group of 122 students ranked in each quarter of the Level II Achievement Test norms, indicating that the group was quite typical of the college seniors who constitute the norm group for the Form E Achievement Test.

TABLE III

RELATION BETWEEN QUARTER RANKINGS ON THE LEVEL I, FORM A-S, ACHIEVEMENT TEST AND THE LEVEL II, FORM E, ACHIEVEMENT TEST OF 144 STUDENTS IN 16 COLLEGES

(Percentage entries are based on the number of students in each quarter of the Level I test. The correlation between the scores of the two levels is .50)

Quarter Ranking on Level I, Form A-S, Test	Quarter Ranking on Level II, Form E, Test				Total
	(Lowest) 4	3	2	(Highest) 1	
(Highest) 1	9 (12%)	18 (24%)	22 (29%)	26 (35%)	75
2	11 (26%)	22 (51%)	9 (21%)	1 (2%)	43
3	5 (36%)	8 (57%)	1 (7%)	0	14
(Lowest) 4	4 (33%)	5 (42%)	1 (8%)	2 (17%)	12
Total	29	53	33	29	144

The correlation between the scores of the fifty-minute, Form A-S, Level I Achievement Test scores and the Level II, Form E, scores depicted in Table III is moderate (.50). Seventy-five of the 144 students ranked in the top quarter of the Level I, Form A-S, norms as first-year students, and 48 of these, or almost two-thirds, later ranked in the top half of the Level II, Form E, norms as seniors. In contrast, only about a fifth of the students whose first-year achievement test scores fell below the 75th percentile on the Form A-S test managed to rank in the top half of the norms on the senior-year achievement test.

These results are consistent with those of earlier studies in that they indicate that first-year accounting students have the odds in their favor for attaining above-average success on the Level II Achievement Test in their senior year only when they rank in the top quarter of the Level I Achievement Test norms.

Relation Between the Orientation Test and Level I Achievement Test Scores

It is also of interest to observe the relation between the scores of the Orientation Test, administered in the fall of the first year of accounting study, and the scores of the Level I Achievement Test, administered near the end of the first year (Tables IV and V). The correlation of the Form B Orientation Test scores with the Form A Achievement Test scores for 495 students in 12 colleges is .38, and with the Form A-S Achievement Test scores for 508 students in 10 colleges, it is .44. The difference between these two correlation coefficients is not statistically significant.

TABLE IV

RELATION BETWEEN TOTAL SCORE QUARTER RANKINGS ON THE ORIENTATION TEST,  
FORM B (REVISED), AND THE LEVEL I, FORM A, ACHIEVEMENT TEST  
OF 495 STUDENTS IN 12 COLLEGES

(Percentage entries are based on the number of students in each quarter of the Orientation Test. The correlation between the scores of the two tests is .38)

Quarter Ranking on Orientation Test, Form B (Revised)	Quarter Ranking on Level I, Form A, Test				Total
	(Lowest) 4	3	2	(Highest) 1	
(Highest) 1	15 (9%)	35 (22%)	52 (33%)	57 (36%)	159
2	23 (17%)	35 (27%)	46 (35%)	28 (21%)	132
3	24 (24%)	37 (36%)	25 (25%)	15 (15%)	101
(Lowest) 4	38 (37%)	34 (33%)	24 (23%)	7 (7%)	103
Total	100	141	147	107	495

Although these correlations are not as high as those that are usually obtained between academic aptitude and achievement test scores, they are high enough to indicate that the Orientation Test scores may be used as one basis for estimating a student's relative chances of ranking very high or very low in achievement at the end of the first year of accounting study, as reflected by the Level I test scores. Table IV shows that 36 per cent of the students who ranked in the top quarter on the Orientation Test also ranked in the top quarter on the Level I, Form A, Achievement Test, while only 7 per cent of the students who ranked in the lowest quarter of the Orientation Test obtained scores in the highest quarter of Form A of the Achievement Test. These data imply that a student's chances of earning a score above the 75th percentile on Form A of the Level I Achievement Test are better than one in three if he ranks in the top quarter of the Orientation Test norms, but are less than one in ten if he ranks in the lowest quarter of the Orientation Test norms. It may also be noted that scores in the lowest half of the Form A Achievement Test norms were obtained by less than a third of the students whose Orientation Test scores were in the top quarter of the norms, while more than two-thirds of the students who ranked in the lowest quarter on the Orientation Test fell below the norm median on the Form A Achievement Test.

#### Summary

Results obtained in the recent College Accounting Testing Programs were used for appraising the reliabilities of the revised forms of the Orientation Test and for determining the relationship of the Level I scores to the Level II Achievement Test scores, and of the Orientation Test scores to the Level I scores. The obtained reliabilities for the revised Orientation Tests were in the range of .89 to .94 for the total scores, and in the range of .82 to .92 for the verbal and quantitative part-scores.



TABLE V

RELATION BETWEEN TOTAL SCORE QUARTER RANKINGS ON THE ORIENTATION TEST, FORM B (REVISED), AND THE LEVEL I, FORM A-S, ACHIEVEMENT TEST OF 508 STUDENTS IN 10 COLLEGES

(Percentage entries are based on the number of students in each quarter of the Orientation Test. The correlation between the scores of the two tests is .44)

Quarter Ranking on Orientation Test, Form B (Revised)	Quarter Ranking on Level I, Form A-S, Test				Total
	(Lowest) 4	3	2	(Highest) 1	
(Highest) 1	21 (16%)	32 (24%)	33 (24%)	48 (36%)	134
2	45 (32%)	41 (29%)	29 (21%)	25 (18%)	140
3	45 (34%)	54 (41%)	23 (18%)	9 (7%)	131
(Lowest) 4	54 (52%)	33 (32%)	12 (12%)	4 (4%)	103
Total	165	160	97	86	508

The following correlations were reported: First-year Level I, Form A, Achievement Test scores and senior-year Level II, Form E, Achievement Test scores--.64; first-year Level I, Form A-S, Achievement Test scores and senior-year Level II, Form E, Achievement Test scores--.50; first-year Orientation Test, Form B (Revised), scores and first-year Level I, Form A, Achievement Test scores--.38; first-year Orientation Test, Form B (Revised), scores and first-year Level I, Form A-S, Achievement Test scores--.44. Expectancy tables showing the relation between the students' quarter rankings on the pairs of tests were discussed.