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College accounting testing program bulletin no. 1; A Study of the abililty of accounting students: results of orientation text, form A, in schools of business of twenty-nine colleges, fall semester, 1946

American Institute of Accountants. Committee on Selection of Personnel

THE AMERICAN INSTITUTE OF ACCOUNTANTS
COLLEGE ACCOUNTING TESTING PROGRAM

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A STUDY OF THE ABILITY OF ACCOUNTING STUDENTS: RESULTS OF ORIENTATION TEST, FORM A IN SCHOOLS OF BUSINESS OF TWENTY-NINE COLLEGES

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Prepared by
Committee on Selection of Personnel
437 West 59th Street
New York 19, N. Y.

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CONTENTS

I

PURPOSE AND NATURE OF THE PROJECT

A project of much potential interest and value to schools of business in colleges and universities and to accountancy firms was begun in 1943 under the direction of the Committee on Selection of Personnel of the American Institute of Accountants. The broad purpose of the project is the attraction to public accounting, and the acquisition by the profession, of the best qualified personnel available.

The first two years of the project were devoted mainly to the development of and preliminary experimentation with measurement instruments to be used in the selection procedure. Progress during this period was necessarily slow because nearly all the young men who might have been studying accounting in college, or who were interested in positions with accounting firms, were in the Armed Forces. The tests were, however, developed to a point where they were ready to be used experimentally soon after the war ended.

Types of Tests Needed

The deliberations and exploratory work of the committee indicated a need for appraisal in four main areas: (1) general mental fitness for accounting, (2) achievement in the principles and practices of accounting, (3) interests, and (4) personal qualities. Construction and validation of tests for the first two areas were undertaken under the direction of the committee, and experimentation was carried on with available tests of interests which, it was thought, might meet the requirements of the third area. For the present, appraisal in the fourth area will need to be based mainly upon ratings and other partially subjective devices applied locally, although the committee is exploring the possibilities of more objective procedures in this field.

Construction of Orientation and Achievement Tests

A test of orientation toward and aptitude for accounting and achievement tests at two levels have been constructed. The Orientation Test is designed mainly for use with individuals considering accounting as a profession. It may be used with students in any college year, although it is assumed that it will be given most often near the time of entrance into the first year of accounting.

The lower level of the achievement test, known as Achievement Test, Level I, is intended for students who have completed a full year of an accounting course, or the equivalent. The second level, designated as Achievement Test, Level II, is designed for accounting majors at or near the time of graduation from college. An Achievement Test, Level III, primarily for use by accounting firms in the placement and upgrading of employees will probably be constructed later. That level, when available, may be of interest also to graduate schools of business.

Two forms of the Orientation Test and of each of the two levels of the achievement test have been constructed. Both forms of the Orientation Test and the Achievement Test, Level I, and one form of the Achievement Test, Level II, have been given experimentally in colleges and public accounting firms, item analyzed from the standpoint of difficulty and validity, and revised. A final form of the Orientation Test was used by a considerable group of colleges and universities during the fall term, 1946, and both the Orientation Test and the achievement tests will be available to colleges in the spring of 1947 and thereafter.

Experiment With Strong Vocational Interest Blank

Instead of undertaking the construction of a new interest test, the committee carried on an extensive investigation of the value of the Strong Vocational Interest Blank for use with potential and practicing public accountants. The Strong blank for men can be scored with scales for more than thirty occupations, including a variety of professions. The scales for twenty-seven of these occupations, among which are C.P.A. and accountant, were selected for this experiment.

Through the cooperation of nearly one hundred firms distributed throughout the United States, Strong blanks were filled out and returned to the project office by more than 2,000 public accountants. Studies were made of the scores of the five levels of accountants--partners, managers, senior accountants, semi-seniors, and junior accountants. Median profiles on the twenty-seven occupational scales were found for the different levels, and a median profile for public accountants in general was set up on the basis of the scores of 1,000 accountants--200 from each of the five levels. This median line was presented graphically on a profile sheet on which the twenty-seven occupations were arranged in order of the magnitude of the median scores. This arrangement was designed to facilitate comparisons when the scores of an individual were plotted on the sheet.

The experience of the American Institute of Accountants with the Strong blank led the Dominion Association of Certified Accountants to carry on a similar project. That association arranged with the project office to score the Canadian blanks and analyze the results. The profile of the median scores of 1,117 accountants in Canada on the twenty-seven occupational scales in comparison with that of the 1,000 public accountants in the United States whose scores contributed to the norm line is shown in Figure 1.

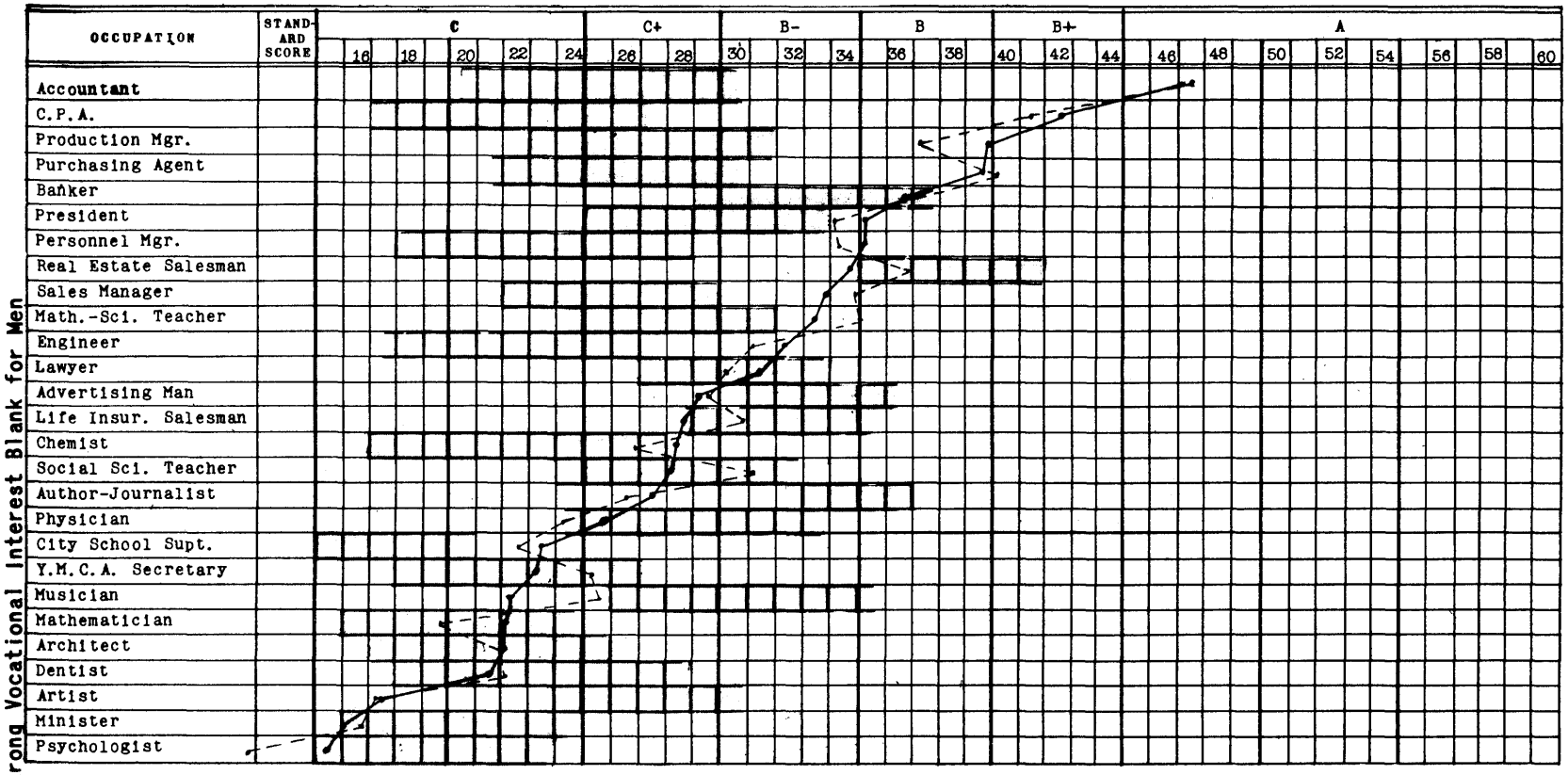
It is apparent that there is a striking similarity between the median interest scores of public accountants in the two countries. These data, as well as many other results in the project office, suggest that the Strong blank is applicable to the measurement of the occupational interests of men widely distributed geographically and that minor differences in culture and background due to locale do not greatly affect the results.

A continuing service in scoring and interpreting the results of Strong Vocational Interest Blanks filled out by men considering or employed in public accounting is now available through the project office. Since the scoring is time-consuming and is practicable only with special machine procedures, the scoring cost is necessarily larger than that for most other tests. The charge is $1.80 per individual for the materials and the scoring

Report on Strong Vocational Interest Blank for Men

Figure 1.

Median scores of 1000 public accountants in the United States with median scores of 1117 public accountants in Canada



Your occupational interests are recorded under the heading "standard score" and opposite the appropriate occupations.

The higher a score to the right of the shaded area the greater the certainty that one has the interests characteristic of that occupation. The lower the score to the left of the shaded area the greater the certainty that one does not have the interests of the occupation. Scores falling within the shaded area are indeterminate: they help sometimes to show, along with other scores, the general trend of one's interests in an occupational group. But generally they can be ignored.

Standard scores of 45 and above are rated A, meaning one has the interests characteristic of men successfully engaged in the occupation. Ratings of B+, B, and B- also indicate possession of the interests characterizing men in those occupations, but at the same time they represent less and less assurance that the classification is correct.

About 15 per cent of men known to be successful rate B+; about 9 per cent rate B; about 4 per cent, B-; and about 2 per cent C+ and C. Occasionally a successful man rates below C+. On the other hand, many successful men rate B-, B, and B+, and a few rate A in occupations other than the one in which they are engaged.

The interest profile of an accountant or of a man considering the accountancy profession should be compared with the median profile for 1,000 accountants as shown by the solid black line.

Men's interests change very little from 25 to 55 years of age. They change somewhat from 20 to 25 years and much more so from 15 to 20 years. Consequently, the younger the man, particularly below 20 years of age, the less certainly can his interests be identified in terms of some occupation. Such changes in interests as take place are more likely to result in higher ratings than the reverse.

The ratings from this test should not be viewed as conclusive; they are not guaranteed as correct. Instead they should be viewed as merely suggestive and to be considered in the light of all other information bearing upon one's vocational choice. Occupations rated A and B+ should be carefully considered before definitely deciding against them; occupations rated C, C+, and B- should be carefully considered before definitely deciding to enter them. Remember only a few from among all the hundreds of occupations are reported on here.

——Median Scores of 1000 Accountants in the United States (200 each Partners, Managers, Seniors, Semi-Seniors, Juniors)

----Median Scores of 1117 Accountants in Canada (191 Partners, 155 Seniors, [illegible] Juniors)

771

and reporting service. It is believed that this service fills a definite need, for it is known that if the interests of a person are similar to the interests of individuals successfully engaged in a certain occupation, that individual is a great deal more likely to be both successful and happy in his work.

Two Service Programs

Test construction and experimentation must be continued for several more years before all aspects of this project are fully developed and validated, but sufficient progress has now been made to enable the committee confidently to offer a professional measurement and record service to colleges and firms.

Henceforth, the committee's testing program will consist of two parts: a College Accounting Testing Program and a Professional Accounting Testing Program. The college program will include all accounting students up to the senior year. The professional program will include college seniors whose applications for the tests are certified by college officials and employees or candidates referred for the tests by member firms. No individual can take the professional tests unless he is sponsored by a college or a firm.

In the spring of 1947, the College Accounting Testing Program will consist of the Achievement Test, Level I, with the Orientation Test and the Strong Vocational Interest Blank optional for those who have not had them. The Professional Accounting Testing Program will consist of the Orientation Test, the Achievement Test, Level II, and the Strong Vocational Interest Blank. This program will be handled on a confidential basis. Full details concerning the arrangements for these tests will be made available to colleges and firms in separate announcements.

The use of the Orientation Test in colleges in the fall of 1946 illustrates on a limited scale some of the inherent values which can be more fully realized when the data for each individual are supplemented by the results of achievement and interest tests. The Orientation Test results will be shown and analyzed in the next section of this report.

II

SUMMARY OF ORIENTATION TEST RESULTS

The information contained in this first bulletin will be of most immediate interest to the institutions cooperating in the 1946 fall testing program. Colleges and universities which participated in this experimental program may be interested to see that a great deal of progress has been made since the initial experimental forms were tried out. It is hoped that other schools of business and accounting not yet participating in the program may find merit in what has already been done and that they will consider including as a regular part of their appraisal procedures this test and other tests to be released this spring.

In the fall of 1946, twenty-nine schools of business administered a total of 12,482 Orientation Tests to their students enrolled in courses of accounting. The Orientation Test does not cover course content but is intended to indicate general aptitude for the study of accounting. It yields separate verbal and quantitative scores as well as a total score. The verbal section includes seventy-five vocabulary items and twenty-five reading questions based on paragraphs taken from business materials, making a possible total of one hundred score points. The quantitative section contains comparatively simple business problems and has a possible total of thirty points. The time limits on each of these sections were so fixed as to make it unlikely that students would make a perfect score, although there were a few students who did make perfect scores in the quantitative section. Preliminary data indicate that the reliability of the Orientation Test is approximately as follows: verbal score, .86; quantitative score, .83; total score, .90. A full report on the statistical reliability and validity of this test and the other new tests will be published later.

All the questions in the Orientation Test are of the multiple-choice type. The test is set up for either hand scoring or machine scoring, but all the tests in this program were machine scored. The scoring was done in the project offices, and a report of the verbal, quantitative, and total scores of the individual students was made to each college.

The reports consisted of class lists indicating the part scores and total scores for each individual. Since this was the first use of the Orientation Test in a regular program, norms could not be made available until the tests for a considerable group of institutions had been scored. For preliminary use, local percentile ratings indicating the relative ranking of the individuals in their own college groups were reported except when the small number of cases did not warrant such a report. Distribution sheets for each year of study were included to give a graphic picture of the results for the group as a whole. Medians and first and third quartiles were computed and reported for each distribution.

When the majority of the participating institutions had returned their papers for scoring and reporting, final percentiles were computed; that is, all the scores obtained by the students in each year of study were combined into one distribution and percentiles were found on the basis of that distribution. A second report was then sent to each college showing the percentile ratings of each individual based on the combined distribution for the year level at which he was studying.

As was to be expected, there was a much larger number of cases in the lower years of study than in the upper years. Except in the fourth year, however, the groups were large enough and included results from enough different colleges to provide fairly adequate norms.

Summary Distributions

Tables I and II show the consolidated distributions of scores on the Orientation Test. The score scale is indicated at the left of each section, and the medians, quartiles, and ranges are entered at the bottom of each yearly column. The largest range of total scores is found for the first-year students. This range indicates great differences in the abilities of students beginning the study of accounting. The range becomes somewhat shorter in the second, third, and fourth years of study, but even in the fourth year the highest score is numerically more than three times the lowest one. It is interesting to see that in the quantitative part of the test the entire possible range of scores from 0 to 30 is covered by the distributions for both the first and second years of study.

Although there is much overlapping in the distributions of scores for all four years, the medians, as indicated by the short, horizontal lines adjacent to the distributions, move upward significantly with each additional year of study. The first and third quartiles, as indicated by the lower and upper ends of the vertical lines parallel to the distributions, likewise increase with advancement in level of study.

It is evident, on the basis of the results here reported, that the more mature and advanced students, considered as groups, consistently tend to achieve higher scores on the Orientation Test than do the beginning students. While the Orientation Test reflects growth or maturation to some extent, it is probable that most of the differences between lower and upper class scores are due to the progressive selection of students from elementary to advanced classes in accounting.

Notwithstanding the natural tendency for the more mature groups to make higher scores than the beginning groups, these distributions show in a striking way that some beginning students are at a much higher level of ability than the majority of the advanced students. Approximately one-fourth of the first-year students reach or exceed the median for the third year. The total scores of a considerable number of the third-year students and a few of those in the fourth year of study fall within the lowest fourth of the distribution for the first year.

The highest total raw score was 125 out of the possible 130 points. This score was made by two students, one of whom was a first-year student. Two other first-year students and four students in the second year of study surpassed all but one of the students in the third-year group and all those in the comparatively small fourth-year group. It is obviously very important to the accounting profession that such exceptionally able students be identified very early in their college course and given every opportunity to develop their unusual talents.

TABLE I

DISTRIBUTIONS BY YEAR OF STUDY IN ACCOUNTING
OF SCORES ON PART I, VERBAL, AND PART II, QUANTITATIVE,
OF ORIENTATION TEST, FORM A

VERBAL					QUANTITATIVE				
Score	1st year	2nd year	3rd year	4th year	Score	1st year	2nd year	3rd year	4th year
99-100					30	9	6	2	
96	2		2		29	33	22	13	1
93	3	4	1	1	28	59	25	13	6
90	8	7	6	1	27	60	24	9	3
87	27	23	12	3	26	98	45	26	5
84	39	24	11	2	25	162	58	34	5
81	72	30	18	2	24	165	60	28	13
78	91	46	24	10	23	191	75	32	6
75	130	49	26	7	22	237	87	36	8
72	158	60	32	6	21	319	90	42	12
69	204	72	22	8	20	340	92	44	13
66	202	76	19	10	19	387	99	40	5
63	291	83	30	17	18	455	117	34	8
60	331	91	31	8	17	488	121	51	10
57	403	92	33	5	16	519	126	36	9
54	413	130	46	8	15	575	121	44	11
51	470	102	40	9	14	602	146	32	12
48	510	116	42	10	13	601	126	28	7
45	555	125	31	8	12	543	82	19	4
42	577	127	34	14	11	492	78	13	1
39	612	126	34	8	10	501	83	16	5
36	603	110	45	3	9	440	69	15	2
33	580	91	37	6	8	337	39	12	1
30	513	102	21	2	7	262	30	2	1
27	474	73	12		6	228	28	4	
24	426	53	8		5	195	11	2	
21	339	34	4	1	4	140	15		
18	257	18	5		3	108	3		
15	206	13			2	76	4		1
12	135	3	1		1	57			
9	70	4			0	67	3		
6	19	1							
3	17								
0-2	9								
Total	8746	1885	627	149	Total	8746	1885	627	149
Q3	55.4	63.1	68.6	70.0	Q3	18.7	21.2	23.0	23.3
Md	42.6	49.6	54.0	60.2	Md	14.5	16.8	19.1	19.5
Q1	31.4	38.2	41.1	46.2	Q1	10.6	13.2	15.3	15.3
Range	0-97	7-94	14-98	22-95	Range	0-30	0.30	5-30	2-29
10%ile	22.4	29.6	33.9	40.1	10%ile	7.0	9.8	11.9	13.0
90%ile	66.9	74.7	79.4	79.2	90%ile	22.6	24.9	26.0	26.0

TABLE II

DISTRIBUTIONS BY YEAR OF STUDY IN ACCOUNTING OF TOTAL SCORES ON ORIENTATION TEST, FORM A

Score	1st year	2nd year	3rd year	4th year
128-130				
124	1		1	
120	2	4		
116	10	10	5	2
112	12	10	9	1
108	35	29	15	2
104	62	33	26	5
100	80	40	17	5
96	125	62	27	10
92	191	72	33	11
88	211	73	33	13
84	266	79	21	13
80	312	100	32	9
76	423	125	57	7
72	497	125	57	12
68	460	136	41	8
64	576	123	42	12
60	630	144	37	10
56	669	123	33	10
52	645	135	39	7
48	647	123	43	4
44	598	87	20	5
40	518	81	20	1
36	469	74	10	2
32	398	45	4	
28	312	27	3	
24	236	15	1	
20	168	5	1	
16	111	5		
12	48			
8	18			
4	14			
0-3	2			
Total	8746	1885	627	149
Q3	72.3	81.6	89.1	91.6
Md	56.1	66.6	73.4	78.0
Q1	43.2	52.3	57.9	63.3
Range	1-125	17-123	21-125	37-119
10%ile	31.6	40.9	48.3	53.7
90%ile	85.8	96.0	102.4	100.1

Results in Individual Colleges

Figures 2, 3, and 4 show graphically the relative standing of the accounting student groups in each college participating in the program. To prevent indentification, code numbers have been used. For all colleges, except numbers 27 and 28, which had no groups in the first-year chart, the code numbers were assigned on the basis of the median achievement by the first-year students, and the same numbers were retained for each college in Figures 3 and 4. Each college has been advised confidentially of its own code number.

The score scale is shown at both the right and the left of the graphs for quick reference. The horizontal solid line extending entirely across each graph represents the median of the consolidated distributions of total scores for that year group. The rectangular bar in each case represents the middle 50 per cent of the scores in the distribution, and the horizontal line about in the middle of the bar is the median for that distribution. The long vertical lines represent the total range of scores, while the short horizontal lines above and below the middle 50 per cent of the distributions represent respectively the ninetieth and tenth percentiles.

By referring to these figures each college can determine the standing of its own students at each year of study with relation to all the other colleges participating in the program. For example, the three distributions of scores for college number sixteen rather closely approximate the corresponding norms. The median for this college's first-year students falls very slightly below the median for the total group of first-year students as indicated by the solid line; the median for its second-year students is somewhat above the median for all students in the second year of study; and its third-year median is slightly below the median of all third-year students. In each distribution for this college, the range of the scores is not as great as are the ranges for many other schools.

School number six did not administer the Orientation Test to third-year students and so appears only in Figures 2 and 3. The distributions of the scores of both the first- and second-year students in this college are considerably above the norms for the group as a whole, and it is interesting to note that its second-year students rise considerably more above the median than do its first-year students.

These charts should not be interpreted as indicative of the kind or quality of instruction in the accounting courses of the various colleges. Rather, these data provide evidence of the wide differences in general ability possessed by the students admitted in 1946 to accounting classes in the different institutions. The students' knowledge of and ability to apply accounting principles and procedures may be measured with the achievement tests to be made available in the spring of 1947.

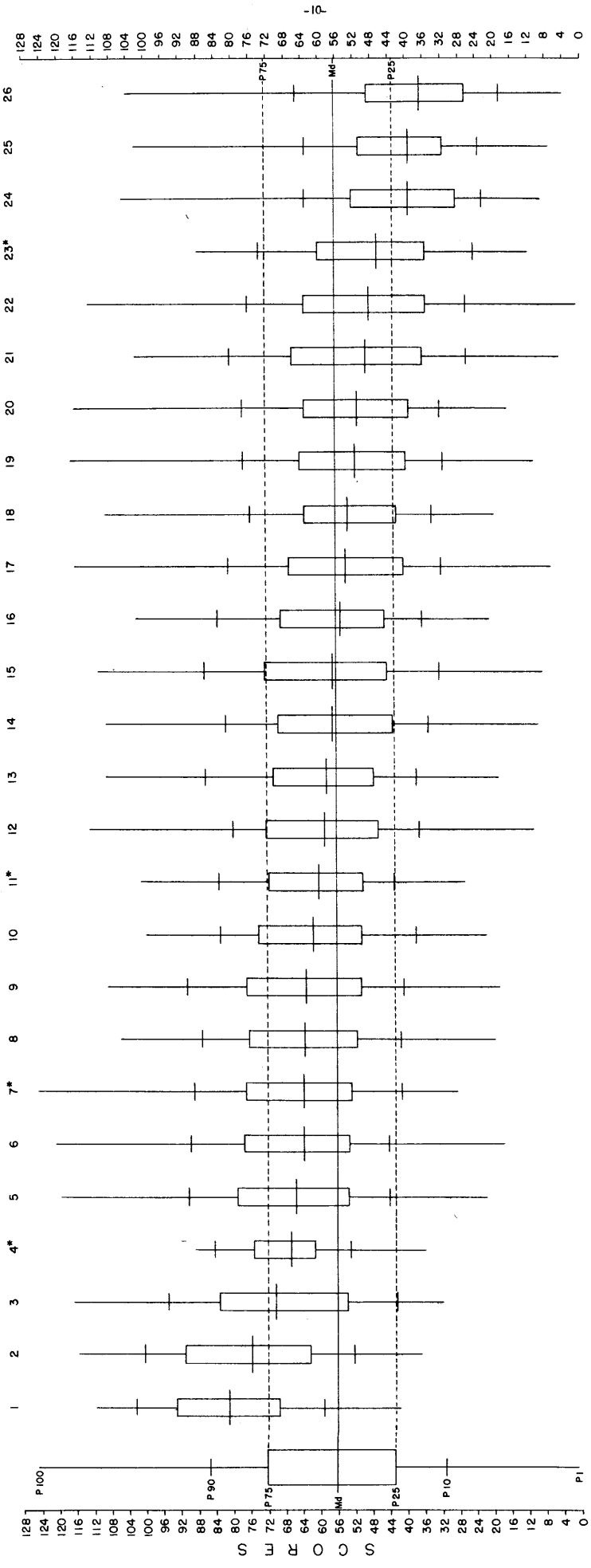
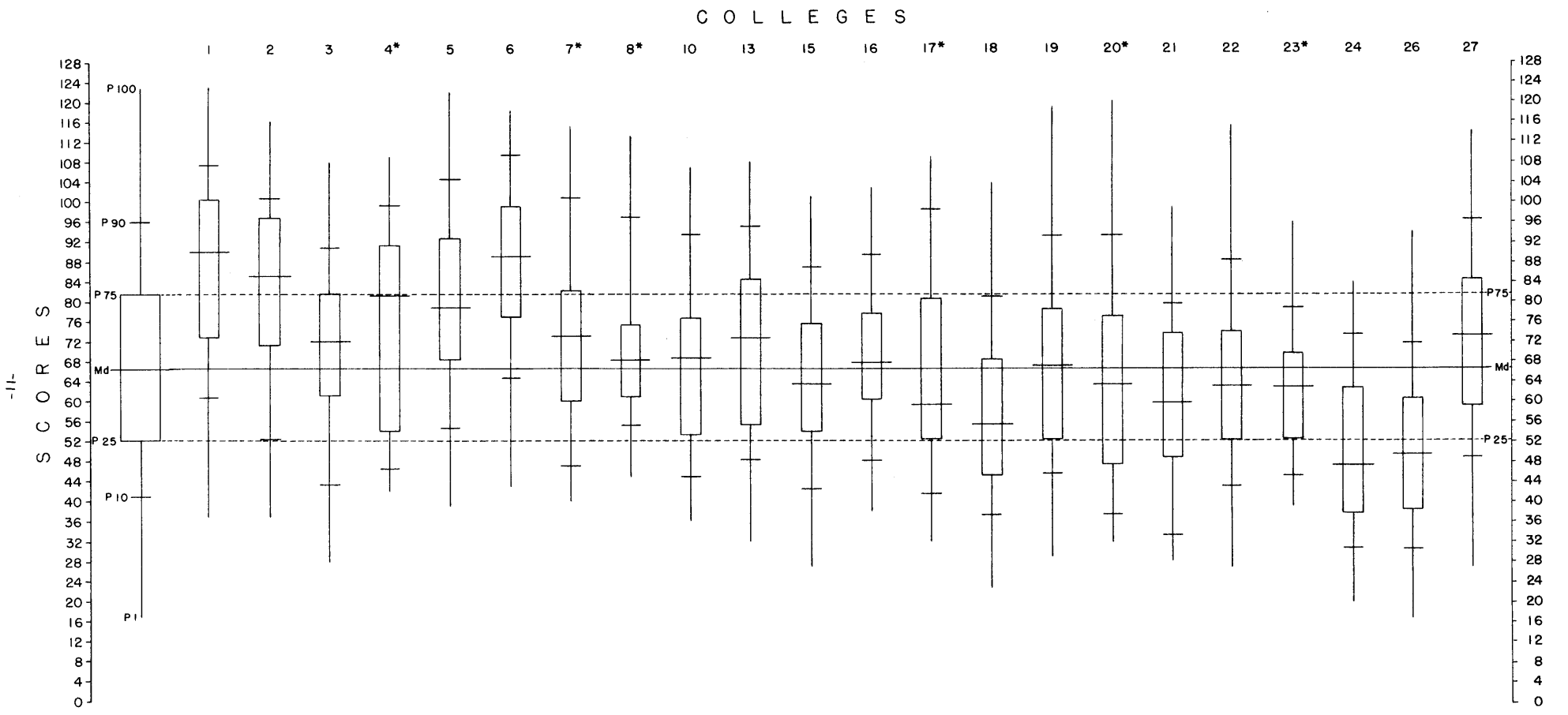


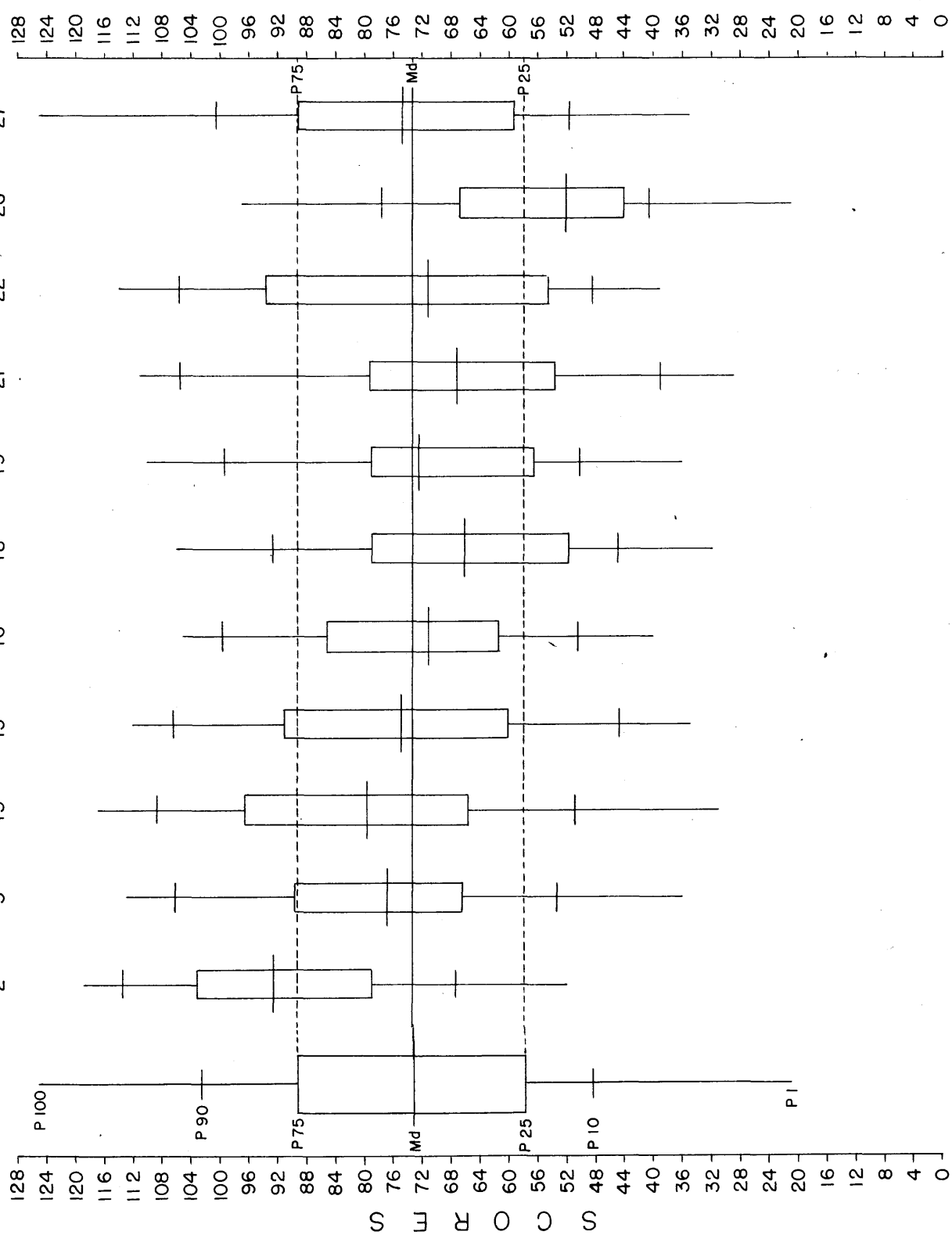
FIGURE 2 — Graphic Representation of Medians, Quartiles, 10th and 90th Percentiles, and Ranges of Total Scores of Students in First Year Accounting Courses of Twenty-six Colleges on Orientation Test, Form A, Fall, 1946.

*Less than 100 cases.



*Less than 40 cases.

FIGURE 3 – Graphic Representation of Medians, Quartiles, 10th and 90th Percentiles, and Ranges of Total Scores of Students in Second Year Accounting Courses of Twenty-two Colleges on Orientation Test, Form A, Fall, 1946.



*Less than 40 cases.

FIGURE 4 – Graphic Representation of Medians, Quartiles, 10th and 90th Percentiles, and Ranges of Total Scores of Students in Third Year Accounting Courses of Eleven Colleges on Orientation Test, Form A, Fall, 1946.

III

ILLUSTRATION OF REPORTS RETURNED TO INDIVIDUAL COLLEGES WITH SUGGESTIONS FOR USE OF RESULTS

The nature of the report of the Orientation Test results to each institution is illustrated in Tables III and IV. Actual scores are used in this sample report, but the name of the institution and the names of the students are fictitious. It is assumed for purposes of illustration that this institution tested a small group of thirty-five first-year accounting students.

Table III shows the distributions of the verbal, quantitative, and total scores of these thirty-five students. The medians, quartiles, and ranges of the scores are given numerically at the bottom of the sheet. The medians are shown graphically by the short horizontal lines adjacent to the distributions. The medians of the verbal, quantitative, and total scores of the entire group of first-year accounting students are designated by the broken lines across the distribution columns.

The median scores for this class of thirty-five students are slightly above the corresponding medians for first-year students in general.

The scores indicate that there is a wide range among the students in aptitude for accounting. Four students stand out with total scores in the neighborhood of 100, while at the bottom of the group one student with a score of 19 is hardly literate enough to be encouraged to go on in accounting classes. It is interesting to see that in the quantitative subtest, consisting of thirty problems, the raw scores range from 1 to 26.

The percentile ranks adjacent to the scores on the class list in Table IV are based on the distributions of the scores of 8,746 first-year accounting students. These percentiles are useful in interpreting the results for each student. The possible range of percentile ranks is from 1 to 100, with 50 as the median or average. A percentile shows the per cent of the individuals in a group who are equalled or exceeded in score by a given individual. For example, R. N. Anderson, the first student on the list, has a total score of 79 which is equivalent to a percentile rating of 85. This percentile means that the score is up to or above those of 85 per cent of the first-year accounting students and is below the scores of 15 per cent of these students. This young man is somewhat higher in quantitative than in verbal aptitude as indicated by his percentiles of 98 and 73, respectively. The third student on the list, David Becker, with a total score of 33, has a percentile rating of only 13 which means, of course, that his score equals or exceeds those of 13 per cent of the first-year students and is below those of 87 per cent. His percentiles in both verbal and quantitative score are comparatively low. He is clearly not a good risk, whereas the first student, assuming other necessary qualities, should probably do competent although not necessarily outstanding work in accounting.

The student with the highest score in this class, William Roberts, has a total percentile rating of 99. Peter Schultz, the student at

TABLE III

AMERICAN INSTITUTE OF ACCOUNTANTS

ORIENTATION TEST, Form A

College Middletown University - first year accounting Date December 31, 1946

	Verbal - Sub-total		Quantitative - Sub-total		TOTAL SCORE
99-100					
96				128-130	
93				124	
90		30		120	
87		29		116	
84	1	28		112	
81	1	27		108	
78		26	1	104	1
75	1	25	1	100	1
72	1	24	2	96	2
69		23	1	92	
66	2	22	2	88	
63		21	1	84	1
60	4	20	1	80	1
57		19	2	76	2
54	3	18	2	72	3
51	3	17	1	68	2
48		16	1	64	2
45	2	15	3	60	1
42	1	14	5	56	3
39	1	13	2	52	4
36	2	12	2	48	5
33	7	11		44	1
30	2	10		40	2
27		9	1	36	2
24	2	8	2	32	1
21		7		28	
18	1	6	2	24	
15	1	5		20	
12		4	1	16	1
9		3		12	
6		2	1	8	
3		1	1	4	
0-2		0		0-3	
Total	35	Total	35	Total	35
Q3	60.9	Q3	20.3	Q3	75.0
Md	45.8	Md	15.2	Md	58.0
Q1	34.2	Q1	12.4	Q1	49.4
Range	17-84	Range	1-26	Range	19-107

——First-year accounting median.

TABLE IV

AMERICAN INSTITUTE OF ACCOUNTANTS

Professional Accounting Testing Program

College Middletown University City Middletown State Ohio

Class First year accounting Date of Report December 31, 1946

Names of Students	Test	ORIENTATION								
	Form	A								
	DateAdm.	December 1, 1946								
		Verbal	%ile		Quantitative	%ile		Total Score	%ile	
1. Anderson, R. N.		53	73		26	98		79	85	
2. Austin, David N.		55	76		20	85		75	80	
3. Becker, David E.		24	14		9	22		33	13	
4. Bennett, Charles N.		73	95		24	95		97	97	
5. Cassidy, Edward S.		60	83		4	5		64	64	
6. Davenport, David S.		62	86		14	53		76	81	
7. Fitzpatrick, Philip A.		60	83		14	53		74	79	
8. Freedman, Robert C.		35	35		13	46		48	35	
9. Gilbert, Robert F.		54	74		8	17		62	61	
10. Gould, Samuel M.		52	71		22	91		74	79	
11. Green, Frederick W.		26	17		13	46		39	20	
12. Harris, Logan H.		34	33		22	91		56	50	
13. Hill, James W.		53	73		18	76		71	75	
14. Houch, Harry C.		75	96		24	95		99	98	
15. Jackson, Arthur N.		54	74		14	53		68	71	
16. Johnson, Leonard		45	57		12	39		57	52	
17. Kendall, Frederick Y.		39	44		14	53		53	44	
18. Lathrop, James L.		61	85		6	10		67	69	
19. Martin, Robert S.		83	99		19	81		102	98	
20. McCabe, Martin L.		44	55		15	60		59	55	
21. Mason, William		33	30		8	17		41	23	
22. Nichols, Arthur B.		35	35		12	39		47	33	
23. Parker, Robert F.		31	26		6	10		37	18	
24. Pratt, Joseph M.		34	33		17	71		51	40	
25. Roberts, William		84	99		23	93		107	99	
26. Ross, Joseph R.		35	35		16	66		51	40	
27. Schultz, R. Peter		17	5		2	2		19	2	
28. Schwartz, Rod W.		66	90		19	81		85	90	
29. Stern, Morris I.		35	35		18	76		53	44	
30. Stevenson, William J.		38	42		14	53		52	42	
31. Thompson, Charles D.		68	92		15	60		83	89	
32. Tucker, Robert C.		47	62		1	1		48	35	
33. Van Buren, Richard P.		36	37		15	60		51	40	
34. Wagner, Richard L.		20	8		21	88		41	23	
35. Walker, Eugene N.		30	24		25	97		55	48	

All scores are actual cases; names are fictitious

%iles are based on scores of 8746 college students in their first year of accounting, fall 1946.

the bottom of the group, has a percentile of 2. Thus, almost the entire range of possible percentiles based on returns from more than 8,700 students, is covered by the scores of this one small class.

In general, there is some correlation between the verbal and quantitative scores of the students, but some of these young men are decidedly higher in one type of score than in the other. For example, Edward Cassidy has a verbal percentile of 83 but a quantitative percentile of 5, and Robert Tucker has verbal and quantitative percentiles of 62 and 1, respectively. On the other hand, Richard Wagner has a verbal percentile of only 8 but a quantitative percentile of 88. One would expect that the first two students would be above average in reading business materials and in self-expression but rather weak in number work and that the reverse would be true of the third student. If such disparities are not supported by other available evidence, it would be advisable to retest these individuals.

When achievement scores are later obtained for these students and are expressed in terms of percentiles, it will be helpful to compare the achievement percentiles with those on the Orientation Test. A student should be able to reach a level of achievement approximately up to his aptitude as measured by the Orientation Test. If he is much lower on the achievement test than on the Orientation Test, a need for counseling is indicated. In such cases, the results of the Strong Vocational Interest Blank may be especially revealing. If the student's Strong blank indicates a concentration of interests in some area other than public accounting, it would probably be advisable to guide him into another field of study.

In view of the work completed to date, the prospects for the project as a whole are extremely favorable. From time to time the committee will continue to issue bulletins summarizing its progress.