

124
85

**FACULTY
RESEARCH
EDITION**

of

**The Savannah State
College Bulletin**

SAVANNAH STATE COLLEGE LIBRARY
STATE COLLEGE BRANCH
SAVANNAH, GEORGIA

Volume 10, No. 2

October, 1956

published by
SAVANNAH STATE COLLEGE
State College Branch
SAVANNAH, GEORGIA

FACULTY RESEARCH EDITION

Published by

THE SAVANNAH STATE COLLEGE

Volume 10, No. 2

Savannah, Georgia

October, 1956

William K. Payne, President

EDITORIAL COMMITTEE

W. H. M. Bowens

J. Randolph Fisher

Joan L. Gordon

Calvin L. Kiah

Alonzo T. Stephens

Ben Ingersoll

R. Grann Lloyd, Chairman

Articles are presented on the authority of their writers, and neither the Editorial Committee nor Savannah State College assumes responsibility for the views expressed by contributors.

1

Contributors

William H. M. Bowens, Director of Audio-Visual Center

Ella W. Fisher, Instructor in Physical Education

Phillip J. Hampton, Instructor in Fine Arts

Thelma M. Harmond, Assistant Professor of Education

Madeline G. Harrison, Assistant Professor
and Assistant Librarian

Luella Hawkins, Associate Professor and Librarian

Walter Larkins, Assistant Professor of
Languages and Literature

R. Grann Lloyd, Professor of Economics and Chairman of
the Instructional Staff Committee on College-wide
Improvement of English

Alonzo T. Stephens, Associate Professor of Social Sciences

Althea M. Williams, Assistant Professor and
Assistant Librarian

Martha W. Wilson, Assistant Professor of Mathematics

The Savannah State College Bulletin is published in October, December, February, March, April, and May by Savannah State College. Entered as second-class matter, December 16, 1947, at the Post Office at Savannah, Georgia, under the Act of August 24, 1912.

34834

TABLE OF CONTENTS

Student Reading at Savannah State College Library	50
<i>Luella Hawkins, Althea M. Williams and Madeline G. Harrison</i>	
A Critical Analysis of Selected Freshman and Sophomore Test Scores and Quality Point Ratios of 87 Savannah State College Students Enrolled in the Gen- eral Education Curriculum	5
<i>Martha W. Wilson</i>	
The Status of Audio-Visual Edu- cation in South Carolina's Ac- credited Negro High Schools	11
<i>William H. M. Bowens</i>	
The Report of An Experimental Study Designed to Improve English Usage	24
<i>William H. M. Bowens, Ella W. Fisher, Thelma M. Harmond, Walter Larkins, and R. Grann Lloyd</i>	
An Historical Analysis of the Growth of America's Massive Retaliatory Foreign Policy	28
<i>Alonzo T. Stephens</i>	
Impressions of College Art	43
<i>Phillip J. Hampton</i>	

A Critical Analysis of Selected Freshman and Sophomore Test Scores And Quality Point Ratios of 87 Savannah State College Students Enrolled in the General Education Curriculum

By Martha W. Wilson

In September, 1953, after several years of study, investigation and planning, the faculty and administration of Savannah State College adopted the curriculum of General Education. It is generally accepted among educators that there is a core of knowledge and broad understanding which is needed by all citizens in a democratic society. At Savannah State College, the decision was made to devote the first two years of college work to the acquisition of such knowledge, attitudes, competencies and values as would give the individual a sense of meaning and direction in life. In order to make it possible for all the students to profit to the fullest extent from their participation in the General Education program, the freshman testing program is administered. The results of these tests are used for sectioning students, for curriculum planning, and for general guidance purposes. Two of the tests administered to all students on entering are: (1) The American Council on Education Psychological Examination and (2) the Cooperative English test (Form Z).

The General Education program for the freshman and sophomore years includes the following courses: English, literature, mathematics, physical science, social science, biological science, psychology, geography, art, music, and a foreign language. The Sophomore testing program administered at the end of the second year attempts to measure the success with which the objectives of the General Education program have been attained. Two of the tests included are: (1) the Cooperative General Culture Test and (2) the Cooperative English Test (Form Rx). The Cooperative General Culture test measures broad understanding and the knowledge of general principles in the same areas included in the General Education program. The Cooperative English test (Form Rx) is a form comparable to that administered to entering freshmen and is used to determine whether

the student has met the English standard necessary to qualify for graduation.

The students who took the Sophomore Comprehensive Examination in May, 1955, were mainly students who entered Savannah State College as the General Education program was being initiated in September, 1953. This study is an analysis of the performance of 87 of the above mentioned students on the ACE Psychological Examination, and the Cooperative English Test (Form Z) taken as entering freshmen; the Cooperative General Culture test and the Cooperative English test (Form Rx) taken as sophomores and their cumulative quality point ratios at the end of their sophomore year. This analysis is intended as a preliminary report on a study which must be conducted continuously for a period of several years if the results are to be interpreted reliably as being characteristic of the student body of Savannah State College. The conclusions drawn here, therefore, are tentative in nature. We would like to think that the results reported here would point to problems which need further investigation and study rather than represent answers to questions which have arisen. The purposes of this study are:

1. To test the significance of the difference between the mean score on the Cooperative English test (Form Z) administered to entering freshmen and the mean score on the comparable Form Rx of this same test earned by these students at the end of their sophomore year.

2. To discover the relationship, if any, between the scores obtained by students on the Cooperative Culture test and their quality point ratios earned during their first two years at Savannah State College.

3. To determine whether students selecting the several major areas of concentration differed significantly among themselves with respect to mean score on Cooperative Culture test, mean quality point ratio or mean score on ACE Psychological examination.

To determine whether the students' knowledge of English fundamentals had improved significantly, a test was made of the significance of the difference between the mean scores obtained on the Cooperative English Test (Form Z) and Form Rx of the same test. The mean score on Form Z was 67.5; the mean score on Form Rx was 81.25. The difference of 13.75 had a standard error of 2.28. The critical ratio of this difference to its standard error was found to be 6.03 with a probability of occurrence of less than 1 in 1000. Therefore, we must reject the hypothesis that there is no difference in performance on the two tests. These results seem to lend support to the newly established practice at Savannah State College of using this Sophomore English test to replace the former English Qualifying ex-

amination. These results also seem to indicate, without actual measurement, the relative effectiveness of the General Education program in English fundamentals.

Since the first two years of college work are comprised mainly of general education courses, the quality point ratio at the end of the sophomore year was assumed to be an index of the level of achievement in the area of general education. Since the Cooperative General Culture Test measures the same outcomes as are set forth as the objectives of the general education curriculum at Savannah State College, the scores on this test were correlated with the quality point ratios of 87 students taking the test in May, 1955. One would expect a close relationship between two variables which are measures of essentially the same characteristic of a population. However, the product moment coefficient of correlation between these two variables was found to be .47. This indicates a positive relationship between knowledge in these areas as measured by the Cooperative General Culture test and grades received in the same areas, but the correlation is not high enough to indicate a very close correspondence between the two. In a similar study conducted a number of years ago by the author at the University of Minnesota, a correlation ratio of .57 was found to exist between honor point ratio and scores in the 1936 Comprehensive examination in the School of Business Administration. This comprehensive was administered at the end of four years of academic work and it is likely that forgetting was a more important factor, in that case, in accounting for the lack of a closer association between variables. It is also to be remembered that teachers' grades are unreliable as a true measure of students' growth. However, the coefficient of correlation between scores made on the Cooperative General Culture Test and the ACE Psychological Examination (by 67 of these students for whom scores were available) was found to be .62, and between the ACE Psychological Examination and quality point ratio, the coefficient of correlation was .54. Since the goals of the General Culture test coincide so closely with the objectives of the general education curriculum, these results seem to indicate that further study is needed to devise means of making this curriculum more effective in attaining its goals.

In separating the students into major preference groups, chemistry and home economics were excluded since there was only one student in each of these areas. In determining whether the mean scores on the Cooperative Culture test, quality point ratios, or ACE psychological test differ significantly among the 8 major preference groups considered, the technique of analysis of variance was employed. The author tested the hypothesis that there was no significant

difference among the mean scores made by the eight major preference groups. The areas of concentration considered were: mathematics, English, biology, social science, industrial education, elementary education, business and general science. The data in Table I and II show the analysis of the variation among the mean scores on the Cooperative Culture test of the 8 major preference groups. The value of the F ratio is 2.449 which corresponds to a probability of .05. If we establish our criterion at the 5% level of significance, then we may reject our hypothesis that there is no difference among the mean scores of the groups. The difference is too great to be attributed to chance.

The data in Tables III and IV show the analysis of the variation among the mean scores on the ACE Psychological Examination of the 8 major preference groups. The value of the F ratio is 2.897 which corresponds to a probability of .02. Here we reject the null hypothesis at the 2% level of significance.

Table I
Statistics on Cooperative General Culture Test Scores Made by Eight Major Preference Groups (May, 1955)

	Math.	Eng.	Biol.	Soc. Sci.	Ind. Ed.	El. Ed.	Bus.	Gen. Sci.	Totals
N	9	6	3	5	5	46	8	5	87
Mean	81.9	70.7	83.0	80.6	69.4	66.4	71.5	84.0	71.3
S.D.	13.4	16.3	21.6	6.3	16.7	13.7	10.8	18.0	15.6

Table II
Analysis of Variance of Eight Major Preference Groups with Respect to Cooperative General Culture Test Scores (May, 1955)

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square
Total	86	463855	5393.66
Among Means of Groups	7	3798	542.57
Within Groups	79	17505	221.58

$$F = \frac{542.57}{221.58} = 2.449 \quad P = .05$$

Table III
Statistics on ACE Psychological Examination Scores made by Eight Major Preference Groups (September, 1953)

	Math.	Eng.	Biol.	Soc. Sci.	Ind. Ed.	El. Ed.	Bus.	Gen. Sci.	Totals
N	6	4	2	5	3	36	6	4	66
Mean	53.7	40.3	59.0	54.0	58.3	38.9	60.0	68.5	46.7
S.D.	16.4	22.8	21.0	11.2	20.5	15.0	14.1	27.3	19.6

Table IV
Analysis of Variance of Eight Major Preference Groups With Respect to ACE Psychological Examination Scores.

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square
Total	65	169205	2603.15
Among Means of Groups	7	6575	939.29
Within Groups	58	18803	324.19

$$F = \frac{939.29}{324.19} = 2.897 \quad P = .02$$

Table V
 Statistics on Quality Point Ratios of Eight Major Preference
 Groups (May, 1955)

	Math.	Eng.	Biol.	Soc. Sci.	Ind. Ed.	El. Ed.	Bus.	Gen. Sci.	Totals
N	9	6	3	5	5	46	8	5	87
Mean	1.44	1.58	1.37	1.75	1.24	1.08	1.39	1.65	1.27
S.D.	.51	.49	.37	.25	.53	.46	.35	.66	.52

Table VI
 Analysis of Variance of Eight Major Preference Groups with
 Respect to Quality Point Ratios (May, 1955)

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square
Total	86	163.5512	1.9017
Among Means of Group	7	4.5131	.6447
Within Groups	79	18.7920	.2379

$$F = \frac{.6447}{.2379} = 2.710 \qquad P = .03$$

The data in Tables V and VI show the analysis of variation among mean quality point ratios. The F ratio has a value of 2.710 which corresponds to a probability of .03. In this case, we may reject the hypothesis at the 3% level of significance.

Since it appears from the data that the scores of the group selecting elementary education as a major contribute the most to the total variance in each of the variables considered, a test was made of the significance of the difference between the mean score of this group and the other seven groups combined on the Cooperative Culture test, the ACE Psychological Examination and the cumulative quality point ratio. The mean score on the Cooperative Culture test for the elementary education major preference group was 66.4; the mean of the other groups combined was 76.9. The difference between these means was 10.5, and the standard error of this difference, 3.16. The critical ratio of the difference to its standard error was 3.32 with its probability of occurrence less than 1 in 1000. The mean score on the ACE Psychological Examination for the elementary education major preference group was 38.9; the mean of the other groups combined was 56.0. The difference between these means was 17.1; its standard error, 4.5. The critical ratio of this difference to its standard error was 3.8 with its probability of occurrence less than 1 in 1000. The mean quality point ratio of the elementary education group was 1.08; the mean of the other groups combined was 1.48. The difference between these means was .40; its standard error .7. The critical ratio was found to be 5.7 with a probability of occurrence less than 1 in 1000.

The results of this analysis seem to indicate that there is a real difference existing among the students who select

the several academic areas of concentration as their major preferences. The difference between the performance of the elementary education major preference group and the other sequences grouped together seems to be too great to be attributed to chance. Although the number of students included in this analysis is too small for the results to be conclusive, the need for further investigation of the problems set forth here is definitely indicated. First, to what extent are our general education courses doing what they are designed to do and second, is there some factor operating to cause students who perform on an inferior level to select elementary education as a major area of concentration?