

8-1933

A Study of the Grades of the Western Kentucky State Teachers College During the Years 1929-30, 1930-31, 1931-32

Carolyn Seward
Western Kentucky University

Follow this and additional works at: <https://digitalcommons.wku.edu/theses>

 Part of the [Educational Assessment, Evaluation, and Research Commons](#), and the [Higher Education Administration Commons](#)

Recommended Citation

Seward, Carolyn, "A Study of the Grades of the Western Kentucky State Teachers College During the Years 1929-30, 1930-31, 1931-32" (1933). *Masters Theses & Specialist Projects*. Paper 2848.
<https://digitalcommons.wku.edu/theses/2848>

This Thesis is brought to you for free and open access by TopSCHOLAR®. It has been accepted for inclusion in Masters Theses & Specialist Projects by an authorized administrator of TopSCHOLAR®. For more information, please contact topscholar@wku.edu.

Seward,

Carolyn Todd

1933

A STUDY OF THE GRADES OF THE WESTERN KENTUCKY STATE
TEACHERS COLLEGE DURING THE YEARS
1929-30, 1930-31, 1931-32

BY

CAROLYN TODD SEWARD

A THESIS
SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS

WESTERN KENTUCKY STATE TEACHERS COLLEGE

AUGUST, 1933

Approved: -

Major Professor

Department of -----

Minor Professor

Graduate Committee

Bert R. Smith, Secy
W. Francis Jones
W. Douglas Wilson
J. C. Hise

CONTENTS

PREFACE

CHAPTER		PAGE
I	INTRODUCTION	1
	The problem -- Scope of the study -- Sources of the data -- Review of similar studies	
II	DISTRIBUTION OF GRADES ASSIGNED IN RESIDENCE	10
	Comparison of the distribution of grades by the various instructors of the college -- Weighting of the grades assigned by the individual instructors according to their deviation from the standard median -- Comparison of the distribution of grades by the various departments -- Weighting of the distribution of grades by departments according to their deviation from the standard median -- Comparison of the deviations from the standard median of grades given by instructors within the same departments-- Comparison of the grades given by the college as a whole with other colleges.	
III	COMPARISON OF GRADES IN EXTENSION STUDY WITH GRADES IN RESIDENCE	56
	Comparison of the distribution of grades by the Extension Department and the total distribution of grades assigned in residence -- A comparison of grades made by the same students in extension study and in residence.	
IV	SUMMARY AND CONCLUSION	64

TABLES

TABLE		PAGE
I	Numerical Values of Marks Used for Computing Medians	4
II	Numerical Values of Marks Used for Computing Grade-Points	5
III	Proposed Frequencies of the Marks A, B, C, D, F	12
IV	Percentage Distribution of Grades, The Median, and Deviation from the Standard Median for Each Instructor	15
V	Weighting of Instructors' Grades According to their Deviation from the Standard Median	29
VI	Percentage Distribution of Grades, The Median, and Deviation from the Standard Median for Each Department	34
VII	Weighting of Departmental Grades According to their Deviation from the Standard Median	36
VIII	Deviation from the Standard Median of the Grades Given by Instructors Within the Same Departments	38
IX	Comparison of the Distribution of Grades by Various Colleges	50
X	Comparison of the Present Study with a Study Made in 1923	52
XI	Comparison of the Distribution of Grades in the Extension Department and the Distribution of All Grades in Residence	57

PREFACE

The present investigation attempts to shed some light on the status of grading students in the Western Kentucky State Teachers College. A plan is suggested for weighting the grades assigned by individual instructors and departments. The use of such a plan by administrators and instructors should tend toward a more uniform rating of students.

Such a study as this is made possible only by the help of others. This opportunity is taken to express my appreciation to Mr. E. H. Canon, Registrar, for the privilege of obtaining information from the institutional records. Acknowledgments are also due to Dr. W. M. Pearce, Director of the Extension Department, for additional information secured from the records in his office. I also wish to express appreciation to Dr. Bert R. Smith, my major professor, for his patience and careful guidance of this work. I am grateful to Dr. Gordon Wilson and to Dr. Lee Francis Jones for their suggestions and criticisms.

C. T. S.

CHAPTER I
INTRODUCTION

The use of school marks for measuring the achievement of students is a universal practice. From the beginning of an individual's college career his grades are watched and interpreted by instructors and administrators. Marks serve as a basis for assigning credit, for special honors and degrees, for credit for quality, for determining failure, for rejection or eligibility for higher scholastic pursuits, for vocational guidance, and for recommending students for positions. Certainly, administrative machinery that functions in so many phases of education and in the life of an individual deserves the cooperation of administrators and instructors in their efforts to study and modify grading systems so that they may function more effectively as guidance factors. A survey of the literature on the subject,¹ however, indicates that administrators, in general, have neglected the problem.

It is the purpose of the present study to present the results of an investigation of the status of grading in the Western Kentucky State Teachers College. The study is undertaken because of the writer's personal interest as a student in the institution and because of the increased attention to the problem in recent years. Such a study should, in every instance, accompany any scheme of supervision. The status of the marking system in any

¹H. O. Rugg, "Teachers Marks and Marking Systems," Educational Administration and Supervision, I (February, 1915), 117-142.

college can best be discovered by making comparisons of the distribution of grades by the various instructors in the same school, by departments, and with other colleges.

The following presents a brief outline of the topics discussed in this chapter:

1. The problem.
2. Scope of the study.
3. Sources of the data.
4. Treatment of the data.
5. Review of similar studies.

The problem. --- The problem selected for this thesis is "A Study of the Grades of the Western Kentucky State Teachers College during the Years 1929-30, 1930-31, 1931-32." The purpose of the study is as follows:

1. To compare the distribution of grades by the various instructors of the college.
2. To weight the grades assigned by the individual instructors.
3. To compare the distribution of grades by the various departments.
4. To weight the grades assigned by departments.
5. To compare the grades given by instructors within the same departments.
6. To compare the grades given by the college as a whole with other colleges.
7. To compare the grades given in residence with those given in extension study.

The scope of the study. --- Since the study is intended for an investigation of the grades given by instructors in Western Kentucky State Teachers College, the records used cover the school years 1929-30, 1930-31, and 1931-32. The results for a period of this length of time are more reliable and comparable than if limited to a shorter period of time. A total of 75,173 marks given by 253 instructors for study in residence, and a total of 2,154 grades given for extension study are used in this investigation.

In order to eliminate the personal element in this study, Arabic numbers are used to designate the various instructors. The departments are indicated by Roman numerals. This limits the value of the study. Non-uniformity in instructors' marks may be greatly reduced by providing each faculty member with tables showing the marks actually given during a certain period of time. Such a procedure would enable each instructor to know to what extent his grades conform with other distributions, and, whenever necessary, to modify his grades accordingly.

Sources of the data. --- The data for this thesis were obtained from the original grade sheets as they were turned in at the registrar's office at the end of each semester and from the individual record cards of the students. Names of students who earned credit for extension study were secured from the office of the Extension Department.

Treatment of the data. --- The data for this thesis are treated statistically and comparatively. The main interest of the study is in the distribution of grades by the instructors

who taught courses offered in residence during the three-year period. For this reason grades given by the Extension Department are not included in the total distribution for the college, but a comparison is made of the grades assigned to extension and resident students. References to the total distribution of grades by the college are only to grades given for study in residence.

The percentage of A's, B's, C's, D's, and F's given for residence study by instructors, by departments, and by the college as a whole is tabulated. After assigning certain numerical values to the grading symbols, the median of each distribution of grades is computed.

The assigned values for the grades are as follows:

TABLE I
NUMERICAL VALUES OF MARKS USED FOR COMPUTING MEDIANS

Grades	Assigned Values
A	0 - 1
B	1 - 2
C	2 - 3
D	3 - 4
F	4 - 5

The grades given by the instructors and departments are weighted according to their deviation from the standard median, which is 2.5.

Comparisons are made between the grades made by the same

students in residence and extension study on a grade-point basis. In determining the grade-points, the following values are arbitrarily used:

TABLE II
NUMERICAL VALUES OF MARKS USED FOR COMPUTING GRADE-POINTS

Grades	Assigned Values
A	5
B	4
C	3
D	2
F	1

The grade-points are computed by multiplying the frequency of each mark by its assigned value. The total sum of the points is divided by the total number of grades. The grade-point average for each student's residence and extension grades is computed and compared.

Summary of other studies. --- An extensive literature concerning college marks has appeared in the last twenty-five years. One of the most outstanding studies in regard to teachers' marks is that of Starch and Elliott² made in 1912-1913, in which they found wide differences in the grading of the same

²S. D. Starch, Educational Psychology (New York, The Macmillan Co., 1927), pp. 512-536.

examination papers by teachers in different schools. The grades assigned the papers ranged from 50 to 98 per cent on one paper and from 43 to 90 per cent on another. They also found the variation almost as great in the grades assigned another paper by teachers within the same department of the same school.

Max Meyer,³ a pioneer in directing attention to college marks, collected and examined the grades assigned for five years at the University of Missouri. He found that the grades assigned by the various instructors showed no uniformity. As a result of his investigation he recommended marking on a probability curve with the following distribution: A - 3 per cent, B - 22 per cent, C - 50 per cent, D - 22 per cent, F - 3 per cent. This plan was adopted in order to eliminate the possibility of students, eager to win honors, choosing courses with certain instructors and avoiding others. In a table compiled by H. O. Rugg⁴ in 1915 the distribution of grades in the University of Missouri is described as approximately normal as a result of the installation of a uniform grading system.

F. J. Kelley,⁵ in a study Teachers' Marks, summarizes and evaluates the work of former students in order to set forth the variability of standards among teachers and to examine certain tests and scales in order to determine their effectiveness in

³Max Meyer, "The Grading of College Students," Science, XXVIII (August, 1908), 243.

⁴Rugg, op. cit., p. 130.

⁵F. J. Kelley, Teachers' Marks, Contributions to Education, No. 66 (New York, Teachers College, Columbia University, 1911).

improving the situation. His conclusions briefly stated are as follows:

1. A grade means various things to different instructors. In some cases this difference amounts to as much as the difference in a good and a fair grade.
2. A mark of 70 in one school means more than a mark of 80 in another having the same passing standards.
3. In colleges the percentage of students that the various instructors fail over a period of several years varies from 0 to 28, or more.

O. C. Carmichael,⁶ in an attempt to work out a plan for making the grading uniform within his institution, made an investigation of the distribution of grades by the various colleges of the state of Alabama. Twelve institutions are represented in the study. He found that the percentage of A's ranged from 13 to 38; the percentage of E's and F's combined ranged from 4.5 to 30.4.

Miss Vaden's⁷ investigation of the distribution of the grades at George Peabody College for Teachers, which appears in the form of a Master's thesis, is one of the most recent studies of college grade distributions. This study includes the grades

⁶O. C. Carmichael, "Distribution of College Grades," School and Society, XXIII (February, 1926), 246-248.

⁷Miss James W. Vaden, The Distribution of the Grades at George Peabody College for Teachers (unpublished Master of Arts thesis, George Peabody College for Teachers, Nashville, Tennessee, 1931).

from the summer of 1925 through the spring of 1929. The distribution of the grades at George Peabody College shows a very small percentage of D's and F's and a very large percentage of C's and B's. The total distribution of grades is as follows: 11.1 per cent A's, 37.5 per cent B's, 49 per cent C's, 1.9 per cent D's, .5 per cent F's. This distribution is abnormal in comparison with distributions found by investigators who have tabulated large numbers of marks, according to Miss Vaden's conclusion.

John W. Payne⁸ recently made a comparative study of the distribution of the grades given in the undergraduate schools of the University of Chicago. The comparisons are made on the basis of grade-points. He found a wide range of grade-point averages for the various departments and instructors. Thirteen of the thirty-nine departments had grade-points below the university average. The value of the A's assigned by the various instructors ranged from 50 to 250.

Max H. Friedman⁹ in a recent thesis sets forth the situation of the grading system of Washington Square College of New York. His investigation resulted in the following findings: Grades for the college were higher than they would have been under a normal

⁸John W. Payne, A Comparative Study of the Distribution of Grades in the Undergraduate School of the University of Chicago, 1925-1928 (unpublished Master of Arts thesis, University of Chicago, 1929).

⁹Max H. Friedman, Distribution of the Grades in the Washington Square College of New York University (unpublished Master of Arts thesis, University of New York, 1951).

distribution; most departments vary widely from the normal distribution; the grades assigned by the various instructors within the same department deviate widely from the departmental distribution.

CHAPTER II

DISTRIBUTION OF GRADES ASSIGNED IN RESIDENCE

The following grading system is used in the Western Kentucky State Teachers College:

- A indicates superior work
- B indicates work above average
- C indicates average work
- D indicates work below average
- F indicates failure
- X indicates conditioned.¹⁰

The following excerpts taken from the college catalog exemplify the importance attached to marks assigned students by the instructors in this college:

"Candidates for the College Elementary certificate, the Standard certificate, the College certificate, or any degree conferred by the institution must acquire a number of grade points equal to the number of semester hours required for the certificate or degree sought. Each credit of 'A' grade allows three points; of 'B' grade, two points; and of 'C' grade, one point. 'D' grades allow credit toward graduation, but do not count toward points. An average standing of 1 or 'C' is required of all students receiving any certificate or the baccalaureate degree."¹¹

The registrar of the college must be provided with a transcript of a student's undergraduate grades before the student

¹⁰Catalog, Western Kentucky State Teachers College, Vol. XII, No. 6, p. 62.

¹¹Ibid.

can be registered for a Master's degree.¹²

"The Master of Arts degree will be conferred on no candidate with an average standing of less than 'B'. No credit for work with 'D' grades will be granted."

Such statements illustrate the importance of the problem of grading students in the Western Kentucky State Teachers College.

The purpose of this chapter is as follows:

1. To compare the distribution of grades by the various instructors of the college.
2. To weight the grades assigned by the individual instructors according to their deviation from the standard median.
3. To compare the distribution of grades by the various departments.
4. To weight the distribution of grades by departments according to their deviation from the standard median.
5. To compare the deviations from the standard median of grades given by instructors within the same departments.
6. To compare the grades given by the college as a whole with other colleges.

With reference to the ideal distribution of grades there is wide variation of opinion, as shown in Table III, which presents the plan proposed by each of the men listed.

¹²Ibid. p. 87.

¹³Ibid. p. 89.

TABLE III^a

PROPOSED FREQUENCIES (IN PERCENT) OF THE MARKS A, B, C, D, F

	A's	B's	C's	D's	F's
Cattell	10	20	40	20	10
Meyer	3	22	50	22	3
Dearborn	2	23	50	23	2
Finkelstein	12	19	45	21	3
Rugg	7	24	38	24	7

The median for each plan of distribution with the exception of Finkelstein's is found to be 2.5 when the numerical values listed in Table I are assigned to the various marks. The median for Finkelstein's distribution of grades is 2.4, which shows slight variation.

Any normal plan of distribution according to a five-point grading system will show a median of 2.5 when the numerical values listed in Table I are assigned to the grading symbols. This is referred to in this study as the standard median. The medians for the distributions proposed by Rugg and Meyer are computed below for the purpose of illustration.

^aW. S. Miller, "College Marks," Problems of College Administration, University of Minnesota, 1929, p. 290.

Rugg's Distribution			Meyer's Distribution		
Class Interval	Frequency		Class Interval	Frequency	
F	4-5	7	F	4-5	3
D	3-4	24	D	3-4	22
C	2-3	38	C	2-3	50
B	1-2	24	B	1-2	22
A	0-1	7	A	0-1	3
<hr/>			<hr/>		
Median	-	2.5	Median	-	2.5

Specialists and students of education, as shown in Table II, generally assume that ability and achievement as represented by school marks should be distributed in any large group according to the probability surface of distribution. If this assumption has any validity, the median for any instructor's marks for any large number of unselected students should tend to conform to the standard median when the above numerical values are used.

Table IV presents the results of the investigation of the 75,173 grades given by the 233 instructors who taught in the college during the years 1929-30, 1930-31, 1931-32. No "X" grades are considered in the study. Thirty instructors having fewer than twenty-five grades are listed together, since it is not expected that a small group will necessarily conform to a proper distribution. These instructors are listed as "others" in the table and are not treated individually. They are used only for the influence which they have upon the total distribution of grades.

The table shows the percentage of the various marks given by each of the instructors in the college during the three-year

period. The table also shows the median of each distribution of grades and the deviation from the standard median, which is 2.5. The instructors are listed according to their deviation from the standard median. The table should be read according to the following illustrations:

- (1) Instructor 1 gave a total of 523 grades during as many of the semesters as he taught in the college. Of these 523 marks 67.1 per cent were A's, 23.3 per cent were B's, 8.2 per cent were C's, .7 per cent were D's, and .5 per cent were F's, with a median of .2, which shows a positive deviation of 2.3 points from the standard median.
- (2) Instructor 176 gave a total of 108 grades during as many of the semesters as he taught in the college. Of these 108 marks 16.6 per cent were A's, 19.4 per cent were B's, 27.7 per cent were C's, 20.3 per cent were D's, and 15.7 per cent were F's, with a median of 2.5, which coincides with the standard median.
- (3) Instructor 184 gave a total of eighty-six grades during as many of the semesters as he taught in the college. Of the eighty-six marks 3.4 per cent were A's, 20.9 per cent were B's, 41.8 per cent were C's, 3.4 per cent were D's, and 30.2 per cent were F's, with a median of 2.6, which shows a negative deviation of .1 from the standard median.

TABLE IV

PERCENTAGE DISTRIBUTION OF GRADES, THE MEDIAN, AND DEVIATION FROM THE STANDARD MEDIAN FOR EACH INSTRUCTOR

Instructor	Total Number of Grades	A's	B's	C's	D's	F's	Median	Deviation from Standard Median, 2.5
1	523	67.1	23.3	8.2	.7	.5	.2	2.3
2	819	55.4	28.8	13.9	.8	.9	.4	2.1
^s 3	29	65.5	24.1	6.8		3.4	.7	1.8
4	512	65.0	24.2	7.0	1.1	2.5	.7	1.8
5	98	57.1	36.7	5.1	1.0		.8	1.7
6	78	51.2	42.3	6.4			.9	1.6
7	216	44.9	46.7	2.3		6.0	1.1	1.4
8	241	39.0	39.4	18.6	.4	2.4	1.2	1.3
9	63	31.7	53.9	14.2			1.3	1.2
^s 10	92	27.1	68.4	4.3			1.3	1.2
^s 11	72	30.5	55.5	13.8			1.3	1.2
12	39	33.3	43.5	23.0			1.3	1.2
13	200	30.5	45.0	18.5	2.0	4.0	1.4	1.1
^s 14	210	32.3	40.0	18.5	4.7	4.2	1.4	1.1
^s 15	131	29.7	44.2	22.9	3.0	0	1.4	1.1
^s 16	192	26.0	41.1	26.0	3.6	3.1	1.4	1.1

^sThose instructors who were not regular members of the faculty.

TABLE IV (Cont'd.)

Instructor	Total Number of Grades	A's	B's	C's	D's	F's	Median	Deviation from Standard Median, 2.5
17	48	16.6	72.9	10.4			1.4	1.1
18	48	29.1	43.7	27.0			1.4	1.1
^s 19	76	28.9	42.1	28.9			1.5	1.0
20	49	26.5	46.9	26.5			1.5	1.0
21	51	23.5	52.9	23.5			1.5	1.0
^s 22	39	17.9	64.1	15.3	2.5		1.5	1.0
^s 23	206		100					
24	325	32.3	33.8	23.3	5.5	4.9	1.5	1.0
25	109	21.1	55.0	18.3	4.5	.9	1.5	1.0
26	128	16.4	63.2	14.0	3.1	3.1	1.5	1.0
^s 27	139	23.7	47.4	20.1	3.5	5.0	1.5	1.0
28	129	13.1	65.1	21.7			1.5	1.0
29	1020	23.8	45.8	27.7	.9	1.5	1.5	1.0
^s 30	66	19.6	51.5	25.7	3.0		1.5	1.0
31	36	22.2	47.2	30.5			1.5	1.0
^s 32	63	25.3	41.2	31.7		1.5	1.6	.9
33	241	12.4	62.2	16.5	3.3	5.3	1.6	.9
^s 34	190	34.2	25.7	18.4	16.8	4.7	1.6	.9
35	2109	32.6	28.5	22.3	4.7	11.7	1.6	.9

TABLE IV (Cont'd.)

Instructor	Total Number of Grades	A's	B's	C's	D's	F's	Median	Deviation from Standard Median, 2.5
36	165	20.0	49.0	30.3	.6		1.6	.9
37	61	6.5	70.4	22.9			1.6	.9
38	686	19.0	49.5	27.4	2.6	1.3	1.6	.9
39	49	16.3	53.0	24.4	6.1		1.6	.9
^s 40	433	23.3	41.1	26.7	3.0	5.7	1.6	.9
^s 41	115	20.8	43.4	20.8		14.7	1.6	.9
42	548	19.3	45.9	29.5	3.6	1.4	1.6	.9
43	1589	18.1	49.4	28.3	1.7	2.2	1.6	.9
44	193	17.0	51.2	25.9	5.6		1.6	.9
45	110	14.5	56.3	29.0			1.6	.9
46	92	18.4	47.8	31.5	-2.1		1.6	.9
47	453	16.3	50.7	24.5	6.8	1.5	1.6	.9
48	51	27.4	33.3	37.2	1.9		1.6	.9
^s 49	63	25.3	36.5	34.9	3.1		1.6	.9
50	1195	16.7	38.2	31.0	9.2	4.6	1.6	.9
51	496	30.4	28.6	32.2	7.6	1.0	1.6	.9
52	596	21.8	41.4	30.2	5.7	.8	1.6	.9
53	28	17.8	46.4	35.7			1.6	.9
54	93	13.9	51.6	27.9	6.4		1.6	.9

TABLE IV (Cont'd.)

Instructor	Total Number of Grades	A's	B's	C's	D's	F's	Median	Deviation from Standard Median, 2.5
55	306	23.2	33.9	27.4	6.5	8.8	1.7	.8
56	420	24.2	36.6	29.5	6.9	2.6	1.7	.8
^s 57	135	13.3	52.5	33.3	.7		1.7	.8
^s 58	53	16.9	47.1	30.1	3.7	1.8	1.7	.8
59	832	18.2	44.7	22.9	9.0	5.0	1.7	.8
60	125	22.4	37.6	34.4	3.2	2.4	1.7	.8
61	1166	15.3	47.5	31.1	3.2	2.6	1.7	.8
62	1534	16.6	44.8	28.8	7.0	2.6	1.7	.8
63	886	16.3	44.9	28.5	7.1	3.0	1.7	.8
64	46	10.8	52.1	30.4	6.5		1.7	.8
65	57	10.5	52.6	36.8			1.7	.8
66	195	14.3	46.6	37.4	1.5		1.7	.8
67	1080	13.3	48.1	34.8	2.1	1.5	1.7	.8
68	114	8.7	53.5	32.4	2.6	2.6	1.7	.8
69	125	6.4	56.0	35.2	1.6	.8	1.7	.8
^s 70	440	13.8	45.6	36.1	3.6	.6	1.7	.8
71	1222	12.3	47.2	33.8	2.6	3.9	1.7	.8
72	231	14.7	39.3	41.5	1.7	2.5	1.8	.7
^s 73	36	27.7	27.7	38.8		5.5	1.8	.7

TABLE IV (Cont'd.)

Instructor	Total Number of Grades	A's	B's	C's	D's	F's	Median	Deviation from Standard Median, 2.5
S74	188	19.1	34.0	38.2	7.9	.5	1.8	.7
75	325	13.2	45.8	35.3	4.9	.6	1.8	.7
S76	182	20.8	34.6	19.2	14.2	10.9	1.8	.7
77	176	13.6	43.1	34.0	6.8	2.2	1.8	.7
S78	235	17.0	38.2	37.0	3.8	3.8	1.8	.7
79	921	14.5	41.2	39.1	3.8	1.0	1.8	.7
80	460	11.0	45.2	34.3	6.5	2.8	1.8	.7
S81	36	13.8	41.6	36.1	2.7	5.5	1.8	.7
82	48	6.2	50.0	37.5	6.2		1.8	.7
S83	408	25.7	27.6	24.7	11.5	10.2	1.8	.7
84	889	16.1	38.3	35.6	6.5	3.2	1.8	.7
S85	49	12.2	42.8	40.8	4.0		1.8	.7
S86	66	13.6	40.9	37.8	1.5	6.0	1.8	.7
87	777	18.4	34.8	29.2	12.0	5.4	1.9	.6
88	1403	12.5	41.4	41.3	2.2	2.3	1.9	.6
S89	178	14.0	37.0	42.1	2.8	3.9	1.9	.6
90	79	3.7	50.6	43.0	1.2	1.2	1.9	.6
S91	216	17.5	35.1	40.7	6.0	.4	1.9	.6
92	1120	9.9	42.5	41.0	3.9	2.5	1.9	.6

TABLE IV (Cont'd.)

Instructor	Total Number of Grades	A's	B's	C's	D's	F's	Median	Deviation from Standard Median, 2.5
93	421	10.2	41.5	42.2	1.4	4.5	1.9	.6
94	783	12.3	38.6	44.8	2.8	1.2	1.9	.6
^s 95	35	17.1	34.2	45.7	2.8		1.9	.6
^s 96	39	17.9	33.3	33.3	7.6	7.6	1.9	.6
97	33	9.0	42.4	30.3	15.1	3.0	1.9	.6
^s 98	117	13.6	38.4	27.3	15.3	5.1	1.9	.6
99	956	19.1	31.1	27.4	7.9	14.3	1.9	.6
100	834	16.4	33.6	33.0	14.9	1.7	1.9	.6
101	86	19.7	30.2	38.3	8.1	3.4	2.0	.5
102	126	18.2	31.7	34.9	11.9	3.1	2.0	.5
103	222	17.1	32.4	37.8	8.5	4.0	2.0	.5
104	565	11.6	27.7	38.9	10.4	11.1	2.0	.5
^s 105	71	8.4	36.6	43.6	8.4	2.8	2.0	.5
^s 106	28	17.8	21.4	39.2	17.8	3.5	2.0	.5
107	925	15.3	33.0	50.2	1.2	0	2.0	.5
^s 108	118	12.7	35.5	46.6	3.3	1.6	2.0	.5
109	622	9.3	30.8	32.4	12.7	14.6	2.0	.5
110	1214	15.8	32.7	35.0	13.2	3.0	2.0	.5
^s 111	109	8.2	39.4	49.5	2.7		2.0	.5

TABLE IV (Cont'd.)

Instructor	Total Number of Grades	A's	B's	C's	D's	F's	Median	Deviation from Standard Median, 2.5
112	1290	5.3	42.7	45.5	2.7	3.5	2.0	.5
^s 113	146	2.0	45.8	47.2	3.4	1.3	2.0	.5
114	886	18.2	29.9	36.9	10.0	4.8	2.0	.5
115	767	13.4	34.5	35.9	7.9	8.0	2.0	.5
^s 116	138	10.8	36.9	39.8	9.4	2.8	2.0	.5
117	455	12.5	35.8	33.6	11.4	6.5	2.0	.5
118	643	15.2	32.8	32.8	11.0	8.0	2.0	.5
119	416	16.8	29.3	40.6	10.8	2.4	2.0	.5
^s 120	187	13.3	32.6	43.8	6.4	3.7	2.0	.5
121	51	11.7	33.3	50.9	3.9		2.0	.5
122	350	12.2	34.2	37.7	9.4	6.2	2.0	.5
123	88	9.0	37.5	52.2	1.1		2.0	.5
124	521	14.9	29.9	39.7	11.3	4.0	2.1	.4
125	601	16.8	29.2	28.2	15.8	9.8	2.1	.4
126	1211	8.4	34.5	50.3	5.2	1.4	2.1	.4
^s 127	133	7.5	36.0	45.1	9.7	1.5	2.1	.4
128	575	14.2	30.7	33.5	14.4	6.9	2.1	.4
129	897	7.4	38.0	28.8	13.8	11.6	2.1	.4
130	265	18.8	26.4	29.0	16.6	9.0	2.1	.4

TABLE IV (Cont'd.)

Instructor	Total Number of Grades	A's	B's	C's	D's	F's	Median	Deviation from Standard Median 2.5
131	84	8.3	33.3	52.3	4.7	1.9	2.1	.4
^s 132	55	3.6	40.0	54.5	1.8		2.1	.4
^s 133	107	14.0	29.9	35.5	9.3	11.2	2.1	.4
^s 134	212	6.6	34.9	48.1	8.9	1.4	2.1	.4
^s 135	95	10.5	32.6	37.8	13.6	5.2	2.1	.4
^s 136	173	2.8	39.3	43.3	6.9	7.5	2.1	.4
137	430	9.5	31.8	42.0	10.0	6.5	2.2	.3
^s 138	342	8.7	32.7	41.2	11.4	5.8	2.2	.3
^s 139	41	19.5	24.3	26.8	24.3	4.8	2.2	.3
140	711	9.7	31.0	40.2	15.7	3.2	2.2	.3
141	1374	7.9	32.9	39.9	10.2	9.0	2.2	.3
^s 142	121	5.7	35.5	37.1	14.8	6.6	2.2	.3
^s 143	58	5.1	31.0	51.7	12.0		2.2	.3
^s 144	29	10.3	27.5	48.2	6.8	6.8	2.2	.3
^s 145	49	10.2	28.5	44.8		16.3	2.2	.3
146	954	14.3	24.0	42.2	12.9	6.3	2.2	.3
147	763	4.4	28.5	59.6	4.8	2.4	2.2	.3
148	54	9.2	24.0	55.5	11.1		2.3	.2
^s 149	105	12.3	24.7	40.9	10.4	11.4	2.3	.2

TABLE IV (Cont'd.)

Instructor	Total Number of Grades	A's	B's	C's	D's	F's	Median	Deviation from Standard Median, 2.5
150	466	9.4	27.8	40.9	18.8	2.7	2.3	.2
151	1547	4.0	25.0	65.8	2.7	2.3	2.3	.2
^s 152	126	.7	14.2	74.6	7.1	3.1	2.3	.2
153	891	9.9	25.2	40.9	10.3	13.4	2.3	.2
^s 154	35	5.7	28.5	45.7	20.0		2.3	.2
^s 155	67	4.4	22.3	67.1	4.4	1.4	2.3	.2
156	844	8.6	25.3	46.0	11.4	8.4	2.3	.2
^s 157	62	3.2	25.8	59.6	11.2		2.3	.2
^s 158	403	11.9	19.8	49.8	14.3	3.9	2.3	.2
159	1120	11.5	23.3	41.8	14.3	8.9	2.3	.2
160	478	7.7	30.5	31.3	16.3	14.0	2.3	.2
^s 161	154	6.4	33.1	27.9	20.7	11.6	2.3	.2
^s 162	114	4.3	30.7	38.5	11.4	14.9	2.3	.2
^s 163	259	11.5	18.5	50.9	12.3	6.5	2.3	.2
^s 164	114	10.5	23.6	40.3	9.6	15.7	2.3	.2
^s 165	238	7.1	26.4	41.1	4.2	21.0	2.4	.1
^s 166	40	15.0	22.5	30.0	15.0	17.5	2.4	.1
^s 167	90	10.0	22.2	43.3	13.3	11.1	2.4	.1
^s 168	66	4.5	33.3	28.7	13.6	19.6	2.4	.1

TABLE IV (Cont'd.)

Instructor	Total Number of Grades	A's	B's	C's	D's	F's	Median	Deviation from Standard Median, 2.5
^s 169	42	4.7	21.4	54.7	19.0		2.4	.1
^s 170	158	6.9	17.7	55.6	16.4	3.1	2.4	.1
171	812	2.4	19.9	60.4	6.0	11.0	2.4	.1
172	185	7.5	20.0	48.1	12.4	11.8	2.4	.1
^s 173	129	8.5	20.1	44.9	14.7	11.6	2.4	.1
174	373	9.1	23.8	35.1	17.4	14.4	2.4	.1
^s 175	185	3.7	28.6	35.6	18.9	12.9	2.4	.1
^s 176	108	16.6	19.4	27.7	20.3	15.7	2.5	0
^s 177	31	16.1	9.6	48.3	12.9	12.9	2.5	0
178	788	9.0	25.8	28.8	19.1	17.1	2.5	0
^s 179	36	5.5	11.1	63.8	13.8	5.5	2.5	0
180	1527	13.1	20.9	29.9	26.1	9.7	2.5	0
^s 181	70	4.2	18.5	48.5	21.4	7.1	2.5	0
182	436	8.2	17.2	42.8	10.3	21.3	2.5	0
183	206	5.8	26.6	29.6	27.6	10.1	2.5	0
^s 184	86	3.4	20.9	41.8	3.4	30.2	2.6	-.1
185	587	9.8	18.7	32.7	25.0	13.6	2.6	-.1
186	567	19.2	20.2	31.0	11.9	17.4	2.6	-.1
187	544	3.3	21.6	37.1	15.6	22.2	2.6	-.1

TABLE IV (Cont'd.)

Instructor	Total Number of Grades	A's	B's	C's	D's	F's	Median	Deviation from Standard Median, 2.5
188	713	8.9	16.6	36.0	16.8	21.4	2.6	-.1
^s 189	127	10.2	13.3	33.8	22.8	19.6	2.7	-.2
190	931	7.4	12.5	38.1	18.4	23.4	2.7	-.2
^s 191	171	5.8	15.7	36.2	23.3	18.7	2.7	-.2
^s 192	45	8.8	22.2	22.2	35.5	11.1	2.8	-.3
^s 193	44	2.2	40.9	50.0	6.8		2.8	-.3
194	1038	7.1	15.7	30.8	24.6	21.6	2.8	-.3
^s 195	175	8.0	18.2	25.1	39.4	9.1	2.9	-.4
196	818	7.2	15.2	27.8	23.3	26.2	2.9	-.4
^s 197	185	2.1	12.4	36.2	9.7	39.4	2.9	-.4
^s 198	181	4.9	18.2	27.6	27.6	21.5	2.9	-.4
^s 199	191	2.6	9.4	38.2	40.3	9.4	2.9	-.4
^s 200	145	4.8	20.0	20.6	34.4	20.0	3.1	-.6
201	189	5.2	15.3	22.2	24.5	29.6	3.2	-.7
202	650	10.0	17.2	19.6	12.0	41.0	3.2	-.7
^s 203	224	2.6	12.9	22.7	39.7	21.8	3.2	-.7
^s others	319	23.8	49.8	22.5	2.8	.9	1.5	1.0
Total	75,173	15.1	33.8	34.7	9.1	7.0	2.0	.5

The most striking impression made by Table IV is that there seems to be no agreement among instructors in the standards used for assigning the various marks. The A's range from 0 to 67.1 per cent; the B's range from 9.4 to 100 per cent; the C's range from 0 to 74.6 per cent; the D's range from 0 to 40.3 per cent; the F's range from 0 to 41 per cent.

The table indicates a tendency on the part of a large number of instructors to give a high percentage of A's and B's and a small percentage of C's, D's, and F's. Instructors 1, 2, 3, 4, 5, and 6 assigned from 51 to 67 per cent of their grades as A's and 23 to 42 per cent as B's. Instructors 7 to 100 inclusive, gave from 3 to 44 per cent A's and 25 to 100 per cent B's. The A's and B's combined for each of these instructors include 50 per cent or more of the total number of grades given by each.

Instructor 1 is the most outstanding example of high grading. The median of this instructor's grades is .2, which shows a positive deviation of 2.3 from the standard median, 2.5. This deviation becomes significant when it is considered that a range of 1.00 means the difference in A and B, B and C, C and D, or D and F grades, as will be shown in Table V. An instructor whose median shows a deviation of 2.3 is considered a very high grader. Instructor 2 shows a similar distribution to that of Instructor 1.

Instructors 184 to 203, inclusive, graded below the standard median. Instructors 200, 201, 202, and 203 assigned 50 per cent or more of their total number of grades as D's and F's.

Instructors 176, 177, 178, 179, 180, 181, 182, and 183 are

worthy of comment for the conformity which their medians show to the standard median. A fair inference can be made that these instructors tend to rate their students according to a balanced distribution.

Instructor 23 shows a peculiar distribution. This instructor gave a total of 206 grades, all of which are B's. It is quite unusual for a group of that size to show no difference in achievement. The data for this instructor show that these marks were assigned to students pursuing the same course.

The distribution of grades for the college as a whole shows that the percentage of A's is twice as great as the percentage of F's, and almost as great as the percentage of D's and F's combined. The total distribution for the college grades shows 15.1 per cent A's, 33.8 per cent B's, 34.7 per cent C's, 9.1 per cent D's, and 7 per cent F's. The median of this distribution is 2.0, which shows a deviation of .5 from the standard median. According to the deviations 100 instructors gave a larger percentage of high grades, while 80 instructors gave a larger percentage of low grades than the college as a whole. Twenty-three instructors show deviations that are the same as the college deviation.

An interesting observation is that the number of grades apparently had nothing to do with the percentage of high or low marks given by the various instructors. Instructor 202, with a total of 650 grades, gave 10 per cent A's, 17.2 per cent B's, 19.6 per cent C's, 12 per cent D's, and 41 per cent F's. Instructor 2, with a total of 819 grades, gave 55.4 per cent

A's, 28.8 per cent B's, 13.9 per cent C's, .8 per cent D's and .9 per cent F's. Instructor 178, with a total of 788 grades, assigned 9 per cent A's, 25.8 per cent B's, 28.8 per cent C's, 19.1 per cent D's, and 17.1 per cent F's. Instructor 177, with only thirty-one grades, shows a more balanced distribution of high and low grades, with 16.1 per cent A's, 9.6 per cent B's, 48.3 per cent C's, 12.9 per cent D's, and 12.9 per cent F's.

The wide range in the grades given by the various instructors implies that instructors vary widely in their conception of superior, average, and failing work. On the surface of this investigation there seems to be no basis for one instructor assigning 40 per cent of his grades as F's while another instructor gives no failing grades. It is difficult to attach any meaning to an A grade of achievement when one instructor gives 67 per cent of his grades A's while another instructor gives 0 per cent A's. Such wide variation among instructors in the same school makes it possible for a student's high or low rating to depend upon the leniency or severity of the standards of the instructor under whom he chooses to study.

Table IV has shown the wide variation that exists in the grades given by the individual instructors. This variability tends to indicate that instructors rate students according to individual standards. In view of this wide range in the distribution of the various grades it is possible that the grades given by one instructor are equal to lower or higher grades according to the standards of another instructor.

TABLE V

WEIGHTING OF INSTRUCTORS' GRADES ACCORDING TO THEIR DEVIATION FROM THE STANDARD MEDIAN

2.5 :	
:	
2.4 :	
:	
2.3 :	1
:	
2.2 :	
:	
2.1 :	2
:	
2.0 :	
:	
1.9 :	
:	
1.8 :	3, 4
:	
1.7 :	5
:	
1.6 :	6

Instructors whose grades fall above this line should have some of their A's considered as B's and C's; their B's, as C's and D's, etc.

1.5 :	
:	
1.4 :	7
:	
1.3 :	8
:	
1.2 :	9, 10, 11, 12
:	
1.1 :	13, 14, 15, 16, 17, 18
:	
1.0 :	19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31
:	
.9 :	32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54
:	
.8 :	55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71
:	
.7 :	72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86
:	
.6 :	87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

Instructors whose grades fall above this line should have some of their A's considered as B's; some of their B's, as C's, etc.

TABLE V (cont'd)

.5	: 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123
:	:
.4	: 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136
:	:
.3	: 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147
:	:
.2	: 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164
:	:
.1	: 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175
<p style="text-align: center;">This space is the standard median. Instructors whose grades fall above are grading high, those below are grading low.</p>	
2.5	: 176, 177, 178, 179, 180, 181, 182, 183
- .1	: 184, 185, 186, 187, 188
:	:
- .2	: 189, 190, 191
:	:
- .3	: 192, 193, 194
:	:
- .4	: 195, 196, 197, 198, 199
:	:
- .5	:
<p style="text-align: center;">Instructors whose grades fall below this line should have some of their B's considered as A's; some of their C's, as B's, etc.</p>	
- .6	: 200
:	:
- .7	: 201, 202, 203
:	:
- .8	:
:	:
- .9	:
:	:
- 1.0	:
:	:
- 1.1	:
:	:
- 1.2	:
:	:
- 1.3	:
:	:
- 1.4	:
:	:
- 1.5	:

In order to make grades conform roughly to some institutional plan of grading based upon a normal distribution, a standardized procedure for weighting grades may be followed by instructors or administrators. Such a method should be helpful in the solution of the problem of the present rating system. Table V has been prepared for the purpose of weighting the grades given by the various instructors listed in Table IV by means of a statistically derived scale. The standard median is used as the criterion for weighting the grades. The space on the scale opposite 2.5 represents the standard median. Instructors with a median of 2.5 are listed in this space. A range of .5 above and .5 below the standard median is defined as the safety zone. Instructors who are listed within this space graded high or low according to their positive or negative deviation, yet the deviation is not so marked as to indicate a general tendency to grade extremely high or extremely low. Instructors within this zone and those listed in the space representing the standard median should scrutinize their grades in order to determine the extent to which they conform to a proper distribution. Instructors whose medians deviate more than .5 above or .5 below the standard median should have their grades scaled upward or downward according to their positive or negative deviations. Instructors who are listed in the space on the scale which shows deviations of .6 to 1.5, inclusive, graded from one-half to one and one-half points too high, when compared with the standard median. These instructors should have some of their A's considered as B's; some of their B's, as C's; some of

their C's, as D's; and some of their D's, as F's. Instructors listed in the space on the scale which shows deviations of 1.6 to 2.5, inclusive, graded one and one-half to two and one-half points too high, when compared with the standard median. Some of their A's should be considered as B's and C's; their B's, as C's and D's; their C's, as D's and F's; and their D's, as F's, when compared with the standard median.

Instructors listed in the space which shows negative deviations from .5 to 1.5, inclusive, graded one-half to one and one-half points too low when compared with the standard median. Some of their B's should be considered as A's; some of their C's, as B's; some of their D's, as C's; and some of their F's, as D's.

The results of weighting the grades of the various instructors as shown by Table V are as follows:

- (1) 3 per cent of the instructors should have some of their A's considered as B's and C's; their B's, as C's and D's; their C's, as D's and F's; and their D's, as F's.
- (2) 46 per cent of the instructors should have some of their A's considered as B's; some of their B's, as C's; some of their C's, as D's; and some of their D's, as F's.
- (3) 37 per cent of the instructors graded high but are within the safety zone; 8 per cent of the instructors graded low but are within the safety zone; 4 per cent of the instructors show no

deviation from the standard median. These instructors should scrutinize their grades to see to what extent they have distributed their grades according to some institutional plan of grading.

- (4) 2 per cent of the instructors should have some of their B's considered as A's; some of their C's, as B's; some of their D's, as C's; and some of their F's, as D's.

TABLE VI

PERCENTAGE DISTRIBUTION OF GRADES, THE MEDIAN, AND DEVIATION FROM THE STANDARD MEDIAN FOR EACH DEPARTMENT

Department	Total Grades	A's	B's	C's	D's	F's	Median	Deviation from Standard Median
I	523	67.1	23.3	8.2	.7	.5	.2	2.3
II	986	23.8	44.3	26.3	3.6	1.8	1.4	1.1
III	5309	31.6	32.4	23.9	5.1	6.7	1.5	1.0
IV	550	22.9	38.9	28.1	7.2	2.7	1.6	.9
V	1684	16.0	45.2	31.5	2.6	4.3	1.7	.8
VI	3382	15.7	43.0	30.2	7.2	3.6	1.7	.8
VII	969	20.9	36.6	27.1	10.1	5.1	1.7	.8
VIII	1761	15.2	42.6	34.1	6.1	1.7	1.8	.7
IX	5812	14.5	40.6	37.7	3.2	3.8	1.8	.7
X	609	11.1	41.2	39.7	3.4	4.4	1.9	.6
XI	2231	14.3	37.6	43.0	2.7	2.1	1.9	.6
XII	11551	12.7	37.8	41.5	5.9	1.8	1.9	.6
XIII	10373	14.3	34.6	34.5	7.8	8.5	2.0	.5
XIV	2532	9.2	38.0	43.1	5.9	3.5	2.0	.5
XV	2359	14.0	33.7	37.2	9.6	5.2	2.0	.5
XVI	5886	14.8	32.2	37.8	10.2	4.8	2.0	.5
XVII	2810	15.6	31.2	33.9	13.4	5.6	2.0	.5
XVIII	2330	11.3	33.1	40.3	9.4	5.6	2.1	.4
XIX	6153	10.4	26.5	30.4	18.0	14.4	2.4	.1
XX	1280	13.5	18.2	33.8	14.6	19.6	2.5	0
XXI	6083	10.0	17.0	29.2	22.2	21.4	2.7	.2
Total	75,173	15.1	33.8	34.7	9.1	7.0	2.0	.5

Following the same line of procedure used in comparing the marks of the individual instructors, the departmental distributions of grades are compared in Table VI. The twenty-one departments are listed according to their deviation from the standard median. The A's for the various departments range from 9.2 to 67.1 per cent; the B's range from 17 to 45.2 per cent; the C's range from 8.2 to 43.1 per cent; the D's range from .7 to 22.2 per cent; the F's range from .5 to 21.4 per cent.

Departments I, II, III, IV, V, VI, VII, VIII, IX, X, XI, and XII are most conspicuous for high grades. In these departments the A's range from 11.1 to 67.1 per cent, and the B's from 23.3 to 45.2 per cent. Each of these departments gave 50 per cent or more of their grades as A's and B's. Department XX is outstanding for the conformity which its median shows to the standard median. Department XXI is the only department that graded below the standard median. This department assigned the smallest percentage of A's and B's and the largest percentage of D's and F's of any of the departments. Departments XIII, XIV, XV, XVI, and XVII show the same deviation as that of the college. This indicates a tendency toward consistency in the percentage of high and low marks assigned by these departments and the college as a whole.

TABLE VII

WEIGHTING OF DEPARTMENTAL GRADES ACCORDING TO THEIR DEVIATION
FROM THE STANDARD MEDIAN

2.5 :
2.4 :
2.3 : I
2.2 :
2.1 :
2.0 :
1.9 :
1.8 :
1.7 :
1.6 :

Departments listed above this line should have some of their A's considered as B's and C's; their B's, as C's and D's, etc.

1.5 :
1.4 :
1.3 :
1.2 :
1.1 : II
1.0 : III
.9 : IV
.8 : V, VI, VII
.7 : VIII, IX
.6 : X, XI, XII

Departments listed above this line should have some of their A's considered as B's; some of their B's, as C's, etc.

.5 : XIII, XIV, XV, XVI, XVII
.4 : XVIII
.3 :
.2 :
.1 : XIX

This space is the standard median. Departments listed above are grading high, those below are grading low.

2.5 : XX
-.1 :
-.2 : XXI
-.3 :
-.4 :
-.5 :

Departments listed below this line should have some of their B's considered A's; some of their C's, B's, etc.

Table VII weights the grades assigned by the various departments according to the same plan used for weighting the instructors grades. A summary of the table shows that the grades of the various departments should be considered as follows when compared with the standard median:

- (1) Department I should have some of its A's considered as B's and C's; its B's, as C's and D's; its C's, as D's and F's; and its D's, as F's.
- (2) Departments II, III, IV, V, VI, VII, VIII, IX, X, XI, and XII should have some of their A's considered as B's; some of their B's, as C's; some of their C's, as D's; and some of their D's, as F's.
- (3) Departments XIII, XIV, XV, XVI, XVII, XVIII, and XIX graded high but are within the safety zone; the median of the distribution by Department XX conforms to the standard median; Department XXI graded low but is within the safety zone. The grades in these departments should be scrutinized as to their distribution.

TABLE VIII

DEVIATION FROM THE STANDARD MEDIAN OF THE GRADES GIVEN BY
INSTRUCTORS WITHIN THE SAME DEPARTMENTS

Department and Instructor	Deviation from Standard Median, 2.5	Department and Instructor	Deviation from Standard Median, 2.5
Department I	2.3	Department III (cont'd.)	
1	2.3	119	.5
Department II	1.1	133	.4
12	1.2	Department IV	.9
14	1.1	5	1.7
30	1.0	49	.9
42	.9	117	.6
19	.8	Department V	.8
Department III	1.0	3	1.8
4	1.8	40	.9
7	1.4	71	.8
27	1.0	Department VI	.8
24	1.0	38	1.1
33	.9	50	.9
35	.9	59	.8
51	.9	62	.8
56	.8	88	.6
78	.8	130	.4
101	.6		

TABLE VIII (Cont'd.)

Department and Instructor	Deviation from Standard Median, 2.5	Department and Instructor	Deviation from Standard Median, 2.5
Department VII	.8	Department IX (cont'd.)	
13	1.1	70	.8
87	.6	73	.7
Department VIII	.7	79	.7
9	1.3	72	.6
36	.9	92	.6
44	.9	171	.1
74	.7	Department X	.6
75	.7	77	.7
80	.7	96	.6
102	.5	93	.6
103	.5	Department XI	.6
105	.5	29	1.0
*Department IX	.7	32	.9
8	1.3	57	.8
41	.9	131	.3
43	.9	145	.3
60	.8	147	.3
55	.8	152	.2

TABLE VIII(Cont'd.)

Department and Instructor	Deviation from Standard Median, 2.5	Department and Instructor	Deviation from Standard Median, 2.5
Department XII	.6	Department XII (cont'd.)	
6	1.2	76	.9
10	1.2	66	.8
11	1.2	69	.8
180	1.2	68	.8
15	1.1	77	.8
17	1.1	64	.8
9	1.1	65	.8
25	1.0	47	.8
20	1.0	82	.8
26	1.0	67	.8
28	1.0	81	.7
21	1.0	85	.7
22	1.0	90	.6
48	.9	91	.6
54	.9	95	.6
39	.9	97	.6
53	.9	121	.5
46	.9	110	.5
45	.9	113	.5
52	.9	120	.5

TABLE VIII (Cont'd.)

Department and Instructor	Deviation from Standard Median, 2.5	Department and Instructor	Deviation from Standard Median, 2.5
Department XII (cont'd.)		Department XIII (cont'd.)	
107	.5	86	.7
123	.5	104	.5
124	.4	108	.5
126	.4	115	.5
132	.4	100	.4
101	.4	136	.4
137	.3	141	.3
150	.2	142	.3
151	.2	155	.2
134	.2	160	.2
154	.2	173	.2
157	.2	153	.2
148	.2	162	.2
Department XIII	.5	163	.2
2	2.1	165	.1
23	1.0	168	.1
61	.8	175	.1
63	.8	182	0
178	.8	184	-.1
84	.7	197	-.4

TABLE VIII (Cont'd)

Department and Instructor	Deviation from Standard Median, 2.5	Department and Instructor	Deviation from Standard Median, 2.5
Department XIV	.5	Department XVI	.5
62	1.2	6	1.8
107	1.0	59	1.2
58	.8	16	1.1
55	.7	38	.9
112	.5	88	.7
126	.4	50	.6
127	.4	140	.3
135	.4	146	.3
138	.3	158	.2
174	.2	159	.2
191	.1	Department XVII	.5
Department XV	.5	37	.9
18	1.1	100	.6
94	.6	106	.5
111	.5	114	.5
116	.5	118	.5
125	.4	167	.1
128	.4	117	0
149	.2	176	0
		183	0

TABLE VIII (Cont'd.)

Department and Instructor	Deviation from Standard Median, 2.5	Department and Instructor	Deviation from Standard Median, 2.5
Department XVIII	.4	Department XIX (cont'd.)	
47	.9	181	0
89	.6	178	- .1
107	.6	185	- .1
134	.5	187	- .1
122	.4	174	- .3
139	.3	192	- .3
143	.3	193	- .3
156	.2	195	- .4
172	.1	199	- .4
		203	- .7
Department XIX	.1	Department XX	0
34	.9	186	- .1
98	.6	188	- .1
99	.6		
76	.5	Department XXI	- .2
109	.5	83	.7
129	.4	177	0
144	.3	180	0
161	.2	189	- .2
164	.2	190	- .2
173	0		

TABLE VIII (Cont'd.)

Department and Instructor	Deviation from Standard Median, 2.5	Department and Instructor	Deviation from Standard Median, 2.5
Department XXI (cont'd.)		Department XXI (cont'd.)	
194	- .3	200	- .6
198	- .4	202	- .7
196	- .5	201	- 1.0
191	- .6		

The extent of variation that exists among instructors and departments in rating students has already been shown. No attention has been given to the distribution of grades given by instructors within the same departments. In considering the wide divergence in the percentage of the various marks assigned by the departments, it should be remembered that an extreme distribution by one instructor is sufficient to distort the median of the grades assigned by the department as a whole. Table VIII shows to some degree how instructors within the same departments vary. The deviations from the standard median of the grades given by instructors within the same departments are shown in the table. Instructors with fewer than twenty-five grades are not included in this table. Some of the instructors of the college taught in more than one department during the period which this study covers. In such instances the instructor is listed in each of the departments in which he taught. The deviation tabulated each time is for the particular department in which he appears. This accounts for any variance in the deviation shown for the same instructor in Table IV.

The greatest variation among instructors within the same department is found in Department XIII. The highest deviation is 2.1, while the lowest is -.4, the range being 2.5. According to the scale used for weighting the grades, the instructors in this department show a wide divergence in the percentage of high and low marks given. Instructor 2 should have some of his A's considered as B's and C's; his B's, as C's and D's; his C's, as D's and F's; and his D's, as F's. Instructors 23, 61, 63, 178,

84, and 86 should have some of their A's considered as B's; some of their B's, as C's; some of their C's, as D's; and some of their D's, as F's. Instructors 104, 108, 115, 100, 136, 141, 142, 155, 160, 173, 153, 162, 163, 165, 168, and 175 graded high, but are listed in the safety zone. Instructor 182 graded in accordance with the standard median. Instructors 184 and 197 graded low but are within the safety zone of grading.

Instructors in Department III show deviations of .4 to 1.8, the range being 1.4. Instructor 4 should have some of his A's considered as B's and C's; his B's, as C's and D's; his C's, as D's and F's; and his D's, as F's. Instructors 7, 27, 24, 33, 35, 51, 56, 78, and 101 should have some of their A's considered as B's; some of their B's, as C's; some of their C's, as D's; and some of their D's as F's. Instructors 119 and 133 are within the safety zone of grading.

Instructors in Department XVI show deviations from .2 to 1.8, the range being 1.6. Instructor 6 in this department should have some of his A's considered as B's and C's; his B's, as C's and D's; his C's, as D's and F's, and his D's, as F's. Instructors 59, 16, 38, 88, and 50 should have some of their A's considered as B's; some of their B's, as C's; some of their C's, as D's, and some of their D's, as F's. Instructors 140, 146, 158, and 159 are within the safety zone of grading.

The deviations listed for the instructors in Departments IV, V, VI, VIII, IX, XI, XII, XIV, XV, XVII, and XVIII show variations similar to Departments III, XVI, and XIII, while instructors in Departments II, VII, and X graded high, there

is slight difference in the deviations, the range being .4, .5, and .1, respectively. These instructors are listed within the same space in Table V.

One of the most outstanding facts revealed by the table is that instructors who show negative deviations tend to group themselves in the same departments. These instructors are listed in Departments XIX, XX, and XXI. This, however, does not mean that all instructors within these departments have medians that show negative deviations. In Department XIX there are as many positive deviations as there are negative deviations.

Instructors in Department XIX show deviations from $-.7$ to $.9$, the range being 1.6 . Instructors 34, 98, and 99 in this department should have some of their A's considered as B's; some of their B's, as C's; some of their C's, as D's; and some of their D's, as F's. The deviations shown by Instructors 76, 109, 129, 144, 161, and 164 graded high but fall within the safety zone. Instructors 173 and 181 show no deviation from the standard median. Instructors 178, 185, 187, 174, 192, 193, 195, and 199 graded low but fall within the safety zone. Instructor 203 should have some of his B's considered as A's; some of his C's, as B's; some of his D's, as C's; and some of his F's, as D's.

Instructors in Department XXI show deviations from -1.0 to $.7$, the range being 1.7 . Instructor 83 should have some of his A's considered as B's; some of his B's, as C's; some of his C's, as D's; and some of his D's, as F's. Instructors 177 and 180

show no deviation from the standard median. Instructors 189, 190, 194, 198, and 196 graded low but fall within the safety zone. Instructors 191, 200, 202, and 201 should have some of their B's considered as A's; some of their C's, as B's; some of their D's, as C's; and some of their F's, as D's.

The instructors within Department XX graded low, yet the deviations of the medians from the standard median are the same. This tends to show consistency in the standards of grading used by the instructors within this department.

The wide range in the deviations shown by instructors within each department is sufficient evidence that instructors within the same departments are inconsistent in assigning marks.

W. S. Miller,¹⁴ in an attempt to shed light upon the variability of grades given by college instructors, discovered that the instructors in the University of Minnesota, with one exception, admitted that their marks are not based upon achievement alone. Such factors as personality, promptness, courtesy, attitude, and effort play an important role in their rating of students. There is no intention on the part of the writer to underestimate the importance of these desirable traits, but it is maintained that such personal characteristics and achievement should not be rated simultaneously.

On the surface of this investigation the only explanation which occurs to the writer for such wide difference in rating

¹⁴Miller, op. cit., p. 288.

students, as shown by the preceding tables, is the absence of harmonious standards of grading among instructors and departments. This investigation, however, reveals only facts. Further research may explain and justify the wide variation in grading on the basis of differences due to such factors as classification of students, elective and required courses, withdrawals from classes, and the ranking of instructors.

This study suggests that instructors whose grades show deviations of 0 to .5, inclusive, above or below the standard median should become critical of their distribution of marks. Instructors whose grades deviate more than .5 above or below the standard median should modify their standards of grading. Instructors should be able to justify their distribution of grades. This suggestion does not require that the frequencies of instructors' marks conform rigidly to a normal distribution curve, yet such a plan tends toward a more equitable rating of students.

TABLE IX

COMPARISON OF THE DISTRIBUTION OF GRADES BY VARIOUS COLLEGES

College	A	B	C	D	F	Other Grades
Western Kentucky State Teachers College	15.1	33.8	34.7	9.1	7.0	
Washington Square College ^b	11	28	40	16	6	
George Peabody College for Teachers ^c	11.1	37.5	49.0	1.9	.5	
Undergraduate School of University of Chicago ^d	14.0	36.8	36.9	8.2	2.7	1.1
Colleges of Alabama ^e	19.9	31.9	25.8	12.3	5	5
Average of 89 Colleges ^f	11	30	40	13	6	

^bFriedman, op. cit., p. 6.

^cVaden, op. cit., p. 6.

^dPayne, op. cit., p. 7.

^eCarmichael, op. cit., p. 248.

^fM. J. Nelson, "Grading Systems in Eighty-nine Colleges and Universities," Nations Schools, V (June, 1930), 67-70.

When studying the grades of a particular college, it is interesting to make comparisons with other colleges. Table IX has been prepared to show to some extent what is going on in other institutions. The table indicates a tendency on the part of these colleges to give a large percentage of high grades and a small percentage of D's and F's. The distribution of grades given by the Western Kentucky State Teachers College shows a striking similarity to the distribution by the Undergraduate School of the University of Chicago. These colleges show a close range of A's and D's. It is also observed that these two colleges gave approximately the same percentage of B's and C's.

TABLE X

COMPARISON OF THE PRESENT STUDY WITH A STUDY MADE IN 1923

	A	B	C	D	F	X
Present Study	15.1	33.8	34.7	9.1	7.0	
Smith's Study	14.5	28.6	36.3	9.6	4.1	6.9

In 1923 Bert R. Smith,¹⁵ instructor of School Administration in the Western Kentucky State Teachers College, made a study of 13,946 grades given by seventy-five instructors during the school year 1922-23. It is interesting to see to what extent the total distribution of grades found in the present study has remained constant over a period of time. Table X shows a comparison of the present study with the study made by Smith. The close range of 'A's and D's for the two periods is noteworthy. Smith's study shows that the percentage of B's was less in 1922-23, while the percentage of C's was greater.

Chapter summary. --- It has been shown in this chapter that there is a general lack of uniformity in the distribution of grades by instructors in different departments, by various departments, by instructors within the same departments, and by colleges in general.

¹⁵Bert R. Smith, Study of the Grades of Western Kentucky State Teachers College, 1922-23 (unpublished data).

A comparison of the grades assigned by the various instructors shows that the A's range from 0 to 67.1 per cent; the B's range from 9.4 to 100 per cent; the C's range from 0 to 74.6 per cent; the D's range from 0 to 40.3 per cent; the F's range from 0 to 41 per cent.

The results of weighting the grades assigned by the various instructors according to the deviation of the medians from the standard median of 2.5 are as follows:

- (1) 3 per cent of the instructors should have some of their A's considered as B's and C's; their B's, as C's and D's; their C's, as D's and F's; and their D's, as F's.
- (2) 46 per cent of the instructors should have some of their A's considered as B's; some of their B's, as C's; some of their C's, as D's; and some of their D's, as F's.
- (3) 37 per cent of the instructors graded high but are within the safety zone; 8 per cent of the instructors graded low but are within the safety zone; 4 per cent of the instructors show no deviation from the standard median.
- (4) 2 per cent of the instructors should have some of their B's considered as A's; some of their C's, as B's; some of their D's, as C's; and some of their F's, as D's.

A comparison of the distribution of grades by departments shows that the A's range from 9.2 to 67.1 per cent; the B's

range from 17 to 45.2 per cent; the C's range from 8.2 to 43.1 per cent; the D's range from .7 to 22.2 per cent; the F's range from .5 to 21.4 per cent.

The results of weighting the grades assigned by the various departments according to the deviation from the standard median of 2.5 are as follows:

- (1) One department should have some of its A's considered as B's and C's; its B's, as C's and D's; its C's, as D's and F's; and its D's, as F's.
- (2) Eleven departments should have some of their A's considered as B's; some of their B's, as C's; some of their C's, as D's; and some of their D's, as F's.
- (3) Seven departments graded high but are within the safety zone; the median of one department coincides with the standard median; one department graded low but is within the safety zone.

The wide range in the deviations shown by instructors within most of the departments is sufficient evidence that instructors within the same departments are inconsistent in their standards of grading.

All colleges listed in this study tend to give a large percentage of high grades and a small percentage of low grades. Wide diversity of practice is noted in the percentage of each of the marks assigned by the different colleges.

The total distribution of grades for the college found in the present study is as follows: A's, 15.1 per cent, B's, 33.8 per cent, C's, 34.7 per cent, D's, 9.1 per cent, and F's, 7 per cent. A study made by Bert R. Smith in 1922-23 for this same college shows the following distribution of grades: A's, 14.5 per cent, B's, 28.6 per cent, C's, 36.3 per cent, D's, 9.6 per cent, F's, 4.1 per cent, and X's, 6.9 per cent.

In the light of the facts revealed in this chapter it is suggested that all instructors scrutinize their distribution of marks. Instructors whose distribution of grades shows any abnormal tendency toward high or low marking should modify their standards of grading according to some institutional plan.

CHAPTER III

COMPARISON OF GRADES IN EXTENSION STUDY WITH GRADES IN RESIDENCE

The Western Kentucky State Teachers College conducts an Extension Department which offers two divisions of instruction to students not in residence. These divisions are correspondence study and study centers. College students are privileged to earn a maximum of one-fourth of the total hours required for the Standard certificate or the Bachelor's degree by extension study. In regard to the credit assigned for extension study, the literature issued by the college states that the same marking system must be used in correspondence and study-center work as is used in residence and under the same restrictions and regulations.¹⁵ It is not within the scope of this investigation to make a detailed study of this department. Such an investigation would require a more extensive research than is possible in this study. No attention is given to the individual instructors or departments of the extension division of study. Data are presented to show to some extent how extension grades compare with grades in residence. The purpose of the chapter briefly stated is as follows:

1. To compare the distributions of grades by the Extension Department with the total distribution of grades assigned in residence.
2. To compare the grades made by the same students in extension study and in residence.

¹⁵Catalog, op. cit., p. 61.

TABLE XI

COMPARISON OF THE DISTRIBUTION OF GRADES IN THE EXTENSION DEPARTMENT AND THE DISTRIBUTION OF ALL GRADES IN RESIDENCE

Division	A's	B's	C's	D's	F's	Median	Deviation from Standard Median, 2.5
Correspondence	16.3	64.7	16.3	2.4	0	1.5	1.0
Study Center	18.6	45.4	32.7	3.1	0	1.6	.9
Total	17.3	56.2	23.5	2.7	0	1.5	1.0
All grades in Residence	15.1	33.8	34.7	9.1	7.0	2.0	.5

Table XI presents a percentage distribution of the marks assigned by the Extension Department. A total of 2,154 marks actually found recorded in the registrar's office are considered. Of this total number of grades 946 were assigned for study-center work, and 1208 were assigned for correspondence study. The total distribution of grades assigned to all resident students is also shown in order to make comparisons. The distribution of grades by correspondence shows 16.3 per cent A's, 64.7 per cent B's, 16.3 per cent C's, and 2.4 per cent D's. The median of this

distribution of grades is 1.5, which shows a deviation of 1.0 from the standard median.

The distribution of grades in the study-center division shows 18.6 per cent A's, 45.4 per cent B's, 32.7 per cent C's, and 3.1 per cent D's. The median of the distribution of these grades is 1.6, which shows a deviation of .9 from the standard median.

The total distribution of the extension grades shows 17.3 per cent A's, 56.2 per cent B's, 23.5 per cent C's, and 2.7 per cent D's. The median for this distribution is 1.5, which shows a deviation of 1.0 from the standard median.

It has been shown in Chapter II that the median of a distribution of grades which shows a deviation of .6 to 1.5, inclusive, indicates that the grades are one-half to one and one-half points too high when compared with the standard median of 2.5. According to this criterion for weighting the grades, some of the A's given by correspondence and in study center should be considered as B's; some of the B's, as C's; some of the C's, as D's; and some of the D's, as F's.

The distributions of grades for study in residence, in study center, and by correspondence show a very close range in the percentage of A's assigned. Less consistency is noted, however, in the percentages of the other marks assigned. It is noted that the percentage of A's and B's combined assigned to both correspondence and study-center students is greater than the percentage of the same marks assigned to resident students, while the percentage of C's and D's combined is

smaller. The A's and B's combined include 81 per cent of the total number of grades assigned to correspondence students, while the A's and B's combined include 64 per cent of the total number of grades assigned to study-center students. The A's and B's combined include 48.9 per cent of the total number of grades assigned to resident students. The C's and D's combined include 18.7 per cent of the total number of grades assigned to correspondence students, while the C's and D's combined include 35.8 per cent of the grades assigned to study-center students. The C's and D's combined include 43.8 per cent of the total number of grades assigned to resident students.

The wide variance in the percentage of the various marks assigned to resident students and correspondence students is not peculiar to the Western Kentucky State Teachers College. There have been enough reports of similar investigations to prove that just such variance is the prevailing condition among other institutions. The following facts are reported in a bulletin published by Kansas State Teachers College of Emporia:

"The two institutions assigning 30 per cent A's to correspondence students assign 11 per cent A's to resident students. One institution assigning 29 per cent A's to correspondence students assigns 10 per cent A's to resident students. One institution assigning 45 per cent B's to correspondence students assigns 30 per cent B's to resident students. One institution assigning 16 per cent C's to correspondence students assigns 40 per cent C's to resident students. One institution assigning 4 per cent D's to correspondence students assigns 16 per cent D's to resident students. One institution assigning 14 per cent D's to correspondence students assigns 9 per cent D's to resident students. One institution assigning 0 per

cent F's to correspondence students assigns 7 per cent F's to resident students, while another institution assigning 1 per cent F's to correspondence students assigns 7 per cent F's to resident students."¹⁶

In each of the above instances it is noted that the percentages of A's and B's are greater in correspondence study than in residence, while the percentages of C's, D's, and F's are greater in each instance for study in residence.

Comparisons of grades made by the same students in residence and in extension study during the three years covered by this study reveal interesting facts. The method of comparison has been indicated in Chapter I. A comparison of 535 students who pursued courses both in correspondence and in residence shows that 64.2 per cent of the students have a higher average by correspondence than in residence, 24.6 per cent of the students have a higher average in residence than by correspondence, while 11 per cent have the same average in both types of work.

A comparison of 349 students who pursued courses both in study center and in residence shows that 46.7 per cent of the students have higher average in study center than in residence, 46.1 per cent of the students have a higher average in residence than in study center, while 7.1 per cent have same average.

A comparison of grades made by 166 students both in study center and by correspondence shows that 42.1 per cent of the

¹⁶Studies in Education (Kansas State Teachers College of Emporia, Kansas), Vol. I, No. 1, January, 1930, p. 5.

students have a higher average by correspondence than in study center, 32.5 per cent of the students have a higher average in study center than by correspondence, while 25.3 per cent of the students have the same average.

It is observed from the comparisons of grades made by the same students in residence and in extension study that the percentage of students having higher averages in correspondence study is greater in each case than the percentage of students having higher averages in residence or study-center work. The percentage of students having a higher average in residence work is approximately the same as the percentage of students having a higher average in study-center work.

It is not the purpose of the writer to criticize the high marks given by correspondence, since certain important factors may justify this wide variance between the marks assigned to students in correspondence and the marks assigned to students in residence. The following reasons why correspondence grades rank higher than residence grades are offered by the Extension Department:

- (1) Differences due to personal factors of student body, such as maturity and seriousness of purpose.
- (2) Differences due to the fact that students do best when the work is written.
- (3) Differences due to the fact that correspondence papers indicating poor work are required to be rewritten.
- (4) Differences due to the fact that no F or

incomplete grades are considered; weaker students usually get discouraged and quit.¹⁷

A careful analysis to determine the influence of these factors and other elements that may cause the wide difference in the grades assigned in residence and in extension study should constitute a definite contribution to the administration of extension study. Such an investigation should be attempted before any final interpretation of the facts revealed in this study can be stated.

Chapter summary. --- The comparison made in this chapter of the total distributions of grades assigned to students for study by correspondence, in study center, and in residence shows a wide diversity in the percentage of B's, C's, D's, and F's. There is a marked consistency, however, in the percentage of A's in each distribution of grades. The total distribution of grades found for each division of study is as follows:

Correspondence: A's - 16.3 per cent, B's - 64.7 per cent, C's - 16.3 per cent, D's - 2.4 per cent.

Study Center: A's - 18.6 per cent, B's - 45.4 per cent, C's - 32.7 per cent, D's - 3.1 per cent.

Residence: A's - 15.1 per cent, B's - 33.8 per cent, C's - 34.7 per cent, D's - 9.1 per cent, F's - 7 per cent.

The medians of the distribution of correspondence grades and study-center grades show deviations from the standard median of

¹⁷Information from the Extension Department.

1.0 and .9, respectively, while the distribution of grades assigned in residence shows a deviation of .5. It is observed that the percentages of A's and B's combined assigned for both correspondence and study-center work are greater than the percentages of the same marks assigned for study in residence, while the percentages of C's and D's are less.

The comparisons of grades made by the same students in residence and by correspondence show the following results:

- (1) 64.2 per cent of the students have a higher average by correspondence than in residence.
- (2) 24.6 per cent of the students have a higher average in residence than by correspondence.
- (3) 11 per cent of the students have the same average.

The comparison of the grades made by the same students in residence and in study center shows the following results:

- (1) 46.7 per cent of the students have a higher average in study center than in residence.
- (2) 46.1 per cent of the students have a higher average in residence than in study center.
- (3) 7.1 per cent of the students have the same average.

A comparison of the grades made by the same students in correspondence and in study center shows the following results:

- (1) 42.1 per cent of the students have a higher average by correspondence than in study center.
- (2) 32.5 per cent of the students have a higher average in study center than by correspondence.
- (3) 25.3 per cent of the students have the same average.

CHAPTER IV

SUMMARY AND CONCLUSIONS

A study of the grades in the Western Kentucky State Teachers College over a three-year period, 1929-30, 1930-31, and 1931-32, was the problem selected for this thesis. A total of 75,173 grades given by 233 instructors who taught courses offered in residence and a total of 2,154 grades given for extension study were used in this investigation. The data were collected from the records in the registrar's office and from the Extension Department. The purpose of the study was as follows:

- (1) To compare the distribution of grades by the various instructors of the college.
- (2) To weight the grades assigned by the individual instructors according to their deviation from the standard median.
- (3) To compare the distribution of grades by the various departments.
- (4) To weight the distribution of grades by departments according to their deviation from the standard median.
- (5) To compare the deviations from the standard median of grades given by instructors within the same departments.
- (6) To compare the grades given by the college as a whole with other colleges.
- (7) To compare the grades given in residence with those given in extension study.

Instructors differ widely in their distribution of grades. The A's range from 0 to 67.1 per cent; the B's range from 9.4 to 100 per cent; the C's range from 0 to 74.6 per cent; the D's range from 0 to 40.3 per cent; the F's range from 0 to 41 per cent.

The results of weighting the grades assigned by the various instructors according to the deviation of the medians from the standard median of 2.5 are as follows:

- (1) 3 per cent of the instructors should have some of their A's considered as B's and C's; their B's, as C's and D's; their C's, as D's and F's; and their D's, as F's.
- (2) 46 per cent of the instructors should have some of their A's considered as B's; some of their B's, as C's; some of their C's, as D's; and some of their D's, as F's.
- (3) 37 per cent of the instructors graded high but are within the safety zone of grading; 8 per cent of the instructors graded low but are within the safety zone of grading; 4 per cent of the instructors show no deviation from the standard median.
- (4) 2 per cent of the instructors should have some of their B's considered as A's; some of their C's, as B's; some of their D's, as C's; and some of their F's, as D's.

Wide variation is shown in the distribution of marks by the

departments. The A's range from 9.2 to 67.1 per cent; the B's range from 17 to 45.2 per cent; the C's range from 8.2 to 43.1 per cent; the D's range from .7 to 22.2 per cent; the F's range from .5 to 21.4 per cent.

The results of weighting the grades assigned by the various departments according to their deviation from the standard median are as follows:

- (1) One department should have some of its A's considered as B's and C's; its B's, as C's and D's; its C's, as D's and F's; and its D's, as F's.
- (2) Eleven of the departments should have some of their A's considered as B's; some of their B's, as C's; some of their C's, as D's; and some of their D's, as F's.
- (3) Seven departments graded high but are within the safety zone of grading; the median of the distribution of grades by one department conforms to the standard median; one department graded low but is within the safety zone of grading.

The wide range in the deviations from the standard median shown by the distribution of grades by instructors within most of the departments is sufficient evidence that instructors within the same departments vary widely in their rating of students.

The assembled data, which are made up of the grades of all the resident students for the three-year period, show a large

percentage of A's, B's, and C's and a small percentage of D's and F's, the bulk being B's and C's. A similar study made by Bert R. Smith shows that the same condition was prevalent in 1922-23. The distribution found in the present study is as follows: A's - 15.1 per cent, B's - 33.8 per cent, C's - 34.7 per cent, D's - 9.1 per cent, F's - 7 per cent. The distributions of grades by five other institutions, which are used for comparison in this study, indicate a wide diversity among colleges in the percentage of the various marks assigned, yet the same tendency toward high grading is shown by each.

The distributions of grades assigned to students in the extension department are as follows:

Correspondence: A's - 16.3 per cent, B's - 64.7 per cent, C's - 16.3 per cent, D's - 2.4 per cent.

Study Center: A's - 18.6 per cent, B's - 45.4 per cent, C's - 32.7 per cent, D's - 3.1 per cent.

A marked consistency is shown in the percentages of A's assigned in the two divisions of extension study and in residence. No uniformity is shown in the percentage of the other marks. The distributions show that a much higher percentage of B's is assigned for extension study than for study in residence, while a much smaller percentage of C's and D's is assigned for extension study.

The results of the comparisons made of grades assigned to the same students in residence and in extension study are as follows:

(1) 64.2 per cent of the students have a higher average

- by correspondence than in residence.
- (2) 24.6 per cent of the students have a higher average by correspondence than in residence.
 - (3) 11 per cent of the students have the same average in correspondence and in residence.
 - (4) 46.7 per cent of the students have a higher average in study center than in residence.
 - (5) 46.1 per cent of the students have a higher average in residence than in study center.
 - (6) 7.1 per cent of the students have the same average in study center and in residence.
 - (7) 42.1 per cent of the students have a higher average by correspondence than in study center.
 - (8) 32.5 per cent of the students have a higher average in study center than by correspondence.
 - (9) 25.3 per cent of the students have the same average in correspondence and study center.

Upon the surface of this investigation it may seem that the wide variance shown in the grades assigned by instructors and departments of the Western Kentucky State Teachers College is due to a general lack of uniformity in the standards of grading among instructors and departments. This study, however, reveals only facts. No attempt has been made in this general investigation to analyze conditions that may affect the distribution of grades by instructors and departments. The wide variation shown in rating students may be due to the following factors:

- (1) Differences due to the maturity of the student

body.

- (2) Differences due to the purposes of the students.
- (3) Differences due to the classification of students.
- (4) Differences due to required and optional courses.
- (5) Differences due to the percentage of withdrawals from classes.
- (6) Differences due to certain departmental requirements.
- (7) Differences due to the percentage of major and minor students in classes.
- (8) Differences due to sequence of courses.
- (9) Differences due to the personal element.
- (10) Differences due to the ranking of the college instructors.
- (11) Differences due to the number of students.

Further research is needed to ascertain the influence of these and other factors upon the grades assigned by instructors before a final interpretation can be made in regard to the facts revealed in this study.

The findings reported in this study should tend to focus faculty attention on the variability in the practice of assigning grades and should cause each instructor to become critical of his own distribution of grades. It is suggested that instructors compute the median of their distribution of grades each semester according to the plan used in this study. Instructors whose grades deviate from 0 to .5, inclusive, above or below the standard median should scrutinize their distribution of the

various marks. Instructors whose grades deviate .5 above or .5 below the standard median should modify their standards of grading in order to make their distributions conform roughly to some suggested institutional plan. Each instructor should be able to justify his distribution of grades. Such a procedure should tend toward a more equitable rating of students.

BIBLIOGRAPHY

- Bellamy, Raymond, "Grades Given at Florida State College for Women," School and Society, XXXII (July, 1930), 102-104.
- Bolton, F. E., "Do Teachers' Marks Vary As Much As Supposed?" Education, XLVIII (September, 1927), 23-39.
- Byrns, Ruth, "Concerning College Grades," School and Society XXXI (May, 1930), 684-686.
- Carmichael, O. C., "Distribution of College Grades," School and Society, XXIII (February, 1926), 246-248.
- Catalog, Western Kentucky State Teachers College, Vol. XII, No. 6, 1931-32.
- Chambers, M. M., "Achievement and Progress in College," School and Society, XXXII (September, 1930), 394-397.
- Cockerell, T. D. A., "College Grading," School and Society, XXXI (June, 1930), 877-881.
- Crawford, A. B., "Rubber Micrometers," School and Society, XXXII (August, 1930), 233-240.
- Eaton, Harold L., "A Study of School Marks," Education, XLIII (June, 1923), 620-628.
- Ellis, R. S., "The Correction of Constant Errors in College Marks," School and Society, XXIV (October, 1926), 432-437.
- Friedman, Max H., Distribution of the Grades in the Washington Square College of New York University (unpublished Master Arts thesis, University of New York, 1931).
- Garrett, H. E., Statistics in Psychology and Education (New York, Longmans, Green and Co., 1926).

- Gaw, E. A., "College Grades," School and Society, XXIV (November, 1926), 648-651.
- Kelley, F. J., Teachers' Marks, Contributions to Education, No. 66 (New York, Teachers College, Columbia University, 1911).
- Kelley, F. J., "Measuring the Achievements of College Students," The American Arts College (New York, The Macmillan Co., 1925), pp. 113-133.
- Mersereau, E. B., "An Index of Consistency For College Students," School and Society, XXV (March, 1927), 352-353.
- Meyer, Max, "The Grading of College Students," Science, XXVIII (August, 1908), 243-250.
- Miller, W. S., "College Marks," Problems of College Administration, University of Minnesota, 1929, pp. 287-302.
- Nelson, M. J., "Grading Systems in Eighty-Nine Colleges and Universities," Nations Schools, V (June, 1930), 67-70.
- Odell, C. W., Traditional Examinations and New Type Tests (New York, The Century Co., 1928), pp. 109-175.
- Payne, John W., A Comparative Study of the Distribution of Grades in the Undergraduate School of the University of Chicago, 1925-1928 (unpublished Master of Arts thesis, University of Chicago, 1929).
- Remmers, H. H., "The Relationship Between Students' Marks and Student Attitudes Toward Instructors," School and Society, XXVIII (December, 1928), 759-760.
- Rugg, H. O., "Teachers Marks and the Reconstruction of the Marking System," Journal of Educational Psychology, XVIII (December, 1917), 701-720.

DISTRIBUTION OF GRADES BY INSTRUCTORS 1st & 2nd Semesters
1931-1932

No.	Number of Grades							No.	Number of Grades						
	A	B	C	D	F	X	T		A	B	C	D	F	X	
1	8	26	17				2 51	28	5	23	47	21	42	--	133
2	19	44	82	37	52		234	29	80	88	59	14	19	2	260
3	10	30	93	44	59		7 236	30	50	79	50	7	6	--	197
4	18	35	58	60	72		243	31	7	29	46	8	3	--	97
5	4	5	8				18	32	20	32	17	1	4	--	106
6	18	21	30	22	17	1	89	33	13	129	402	42	77	64	663
7	15	39	39	2	6	28	119	34	20	33	33	22	17	3	159
8	20	71	96	26	22	2	235	35	5	18	73	77	47	1	226
9	15	71	55	12	5	1	158	36	14	21	13	--	--	--	41
10	5	31	27	28	14	2	115	37	11	3	1	--	--	--	15
11	13	29	14	2	5	--	63	38	10	12	5	--	--	--	2
12	6	26	31	6	2		71	39	2	4	6	21	30	--	67
13	24	57	76	17	21		2195	40	19	23	38	7	4	4	9
14	38	113	118	6	8	7	283	41	57	97	135	35	7	1	321
15	37	96	98	14	16	4	261	42	30	69	84	--	3	4	180
16	100	87	48	1	2	3	238	43	34	93	114	31	21	4	
17	21	56	43	21	26		167	44	10	30	56	59	56	1	
18	31	94	149	40	28	1	347	45	19	57	85	34	37	3	
19	4	9	23	37	24	3	97	46	30	72	55	14	5	--	
20	30	89	149	25	25	1	318	47	72	153	160	63	21	--	
21	18	204	154	13	11	6	400	48	35	48	106	18	13	1	
22	95	331	175	14	2		617	49	4	5	1	--	--	--	
23	103	288	239	11	8		649	50	117	294	128	6	14	6	
24	55	57	3	1	1		126	51	30	131	163	7	13	3	
25	78	174	91	25	13		5381	52	10	34	79	7	30	-	
26	13	10	48	31	25	3	127	53	22	21	64	27	44		
27	22	24	20	4	4	3	74	54	10	79	146	20	8		

No.	A	B	C	D	F	K
55	23	38	44	15	4	3
56	8	47	52	24	20	--
57	17	27	27	2	2	3
58	25	78	45	9	10	3
59	51	82	93	49	23	2
60	47	48	3	--	5	8
61	32	57	54	19	28	2
62	23	75	67	18	10	1
63	22	72	110	53	43	1
64	14	37	89	23	23	1
65	24	43	82	12	7	--
66	40	136	120	21	19	4
67	10	31	36	13	5	--
68	10	84	76	32	37	5
69	45	133	82	5	6	2
70	142	33	6	1	--	10
71	21	101	124	63	59	--
72	38	79	121	87	39	2
73	27	86	142	35	9	6
74	11	77	10	2	6	--
75	31	46	63	21	7	1
76	11	28	25	4	1	3
77	1	18	94	9	4	1
78	13	41	147	6	--	1
79	24	102	137	51	15	5
80	25	38	50	23	37	1
81	22	97	148	33	37	--
82	20	47	42	16	14	--
83	85	27	10	--	--	1
84	19	20	83	82	74	2

No.	A	B	C	D	F	K
85	9	107	111	13	17	2
86	49	128	73	20	24	--
87	10	45	36	7	1	--
88	295	208	113	14	80	11
89	6	21	20	2	--	1
90	54	184	163	59	25	5
91	20	103	290	12	12	3
92	9	54	64	23	27	--
93	39	104	72	10	5	5
94	81	176	60	2	1	14
95	45	61	61	32	15	1
96	63	78	91	27	18	4
97	11	20	43	17	96	1