

A COMPARISON OF SCHOLASTIC ACHIEVEMENTS  
OF ELEMENTARY SCHOOL GROUPS IN  
PONCA CITY JUNIOR HIGH SCHOOL

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OF ELEMENTARY SCHOOL GROUPS IN  
POWCA CITY JUNIOR HIGH SCHOOL

By

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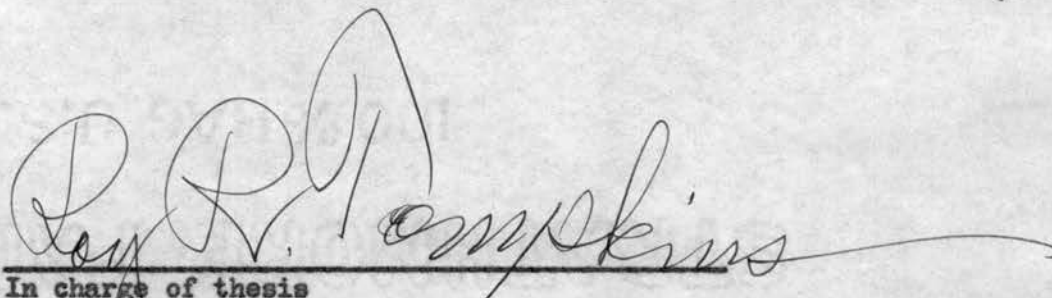
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## INTRODUCTION

The use of marks of scholastic achievement as a basis for evaluating various phases of the educational system has developed naturally. From the beginning, schools have emphasized the significance of scholastic marks, in one form or another, as criteria of scholastic achievement, and from these criteria many and varied comparisons have been made.

An individual measures his educational progress in terms of scholastic marks received; a school gains noteworthy recognition because of high scholastic standards of its students; the university looks with favor on the high school students with highest grade averages; and the high school forms an opinion about the elementary educational preparation of its students by the scholastic marks given in high school.

However, evaluations are not always scientifically sound, based upon reliable data. An occasional reference to one school in a community as being superior to another is likely to be only an expression of opinion, but it may cause families to change residence to permit children to attend a supposedly superior school. It has been an incentive for the author to make a comparative study of elementary school groups in Ponca City.

The Ponca City School System is readily adaptable to a study of this kind, having six elementary schools and one junior high school. Centralization of students in one junior high school standardizes the conditions on which the data were secured.

To forestall possible adverse criticisms, and jealousies, arising locally, the specific names of elementary schools have been omitted in writing the thesis. Instead, each school has been referred to as group 1, 2, 3, 4, 5, 6, or 7.



## PURPOSE OF THE STUDY

The purpose of this study is to make a comparison of the scholastic achievements of elementary school groups, during their seventh grade year in Ponca City Junior High School, in an attempt to determine whether or not there exist any appreciable differences in their educational preparation according to the elementary school which they attended.

The value of this study appears to be twofold; first, an accurate and intelligent interpretation of the data compiled should indicate where educational differences and deficiencies exist in the elementary schools of the Ponca City system; second, the method and procedure established in preparing this thesis may be followed by persons doing similar research in other school systems.

This thesis, limited definitely to a comparison of scholastic achievements of elementary school groups during the seventh grade of the Ponca City Junior High School, is based on original data. Neither identical nor similar research has been done previously in Ponca City. A careful examination of the available source material in the Oklahoma Agricultural and Mechanical College library did not reveal any identical research having been done elsewhere.

## SOURCE OF DATA AND METHOD OF PROCEDURE

Data used in this study were secured from two sources. From the permanent records in the office of the Ponca City Junior High School, seventh grade enrollments, scholastic marks, and intelligence quotients were obtained. In the office of the superintendent of schools, permanent records of elementary school enrollments provided information necessary for placing students in their proper groups for making compari-

sons.

The scope of this study covers a period of three years, seventh grade groups for the school years 1936-37, 1937-38, and 1938-39 being included. A separate and complete list of students enrolled in the seventh grade during each of these three years was made. Names were listed according to former elementary school membership. Seven groups were thus established as basic units for comparing achievements. Six of the seven groups represent the six elementary schools in Ponca City, while the seventh group is composed of students who attended elementary schools in other towns or school districts.

A comparison of scholastic achievements as presented in this thesis may either credit or discredit the school charged with the responsibility of the educational preparation of its students. Following this premise, any school which assumes such responsibility should also have the privilege of directing the training of its students over a reasonably long and continuous period of school time. In keeping with this line of reasoning, the name of any student not attending the same elementary school during the fourth, fifth, and sixth grades was removed from the group list. The minimum requirement for consecutive attendance in any one school was thus fixed to include at least the last three years, a period sufficiently long for the school to influence the educational preparation of its students and to assume major responsibility for their scholastic achievements. The final group list for 1936-37 had 127 names; the 1937-38 list had 167 names; and the 1938-39 list had 122 names.

The next step in the plan of procedure involved the tabulation of scholastic marks given students in subjects taken during their seventh grade year. Scholastic marks in English, mathematics, science, social



studies, industrial arts, music, and physical education were tabulated. Also, the intelligence quotient for each student was tabulated. Data were then compiled in tables I to VII, X to XVI, and XIX to XXV, inclusive, to show distribution of scholastic marks given each group during each of the three years 1936-37, 1937-38, and 1938-39 respectively, and to interpret this distribution in terms of grade point averages.

The system of marks used in the Ponca City Junior High School to report scholastic achievement is A, A-, B, B-, C, C-, and F, ranking from A, highest, to F, lowest or failure. Tables used in this thesis to show distribution of scholastic marks are expressed in terms of these letter marks.

For purposes of figuring grade point averages, a numerical value was substituted for each scholastic mark. Translated in terms of numbers, A equals 6, A- equals 5, B equals 4, B- equals 3, C equals 2, C- equals 1, and F equals 0.

Grade point averages in all subjects were recorded in tables VIII, XVII, and XXVI, each table showing a complete comparison of scholastic achievements of all groups during one year. Intelligence quotient averages were computed and incorporated as parts of these three tables. Relations of total grade point and intelligence quotient averages were compared graphically in tables IX, XVIII, and XXVII.

Total grade point and intelligence quotient averages for each of the three years included in this study were tabulated in table XXVIII and figured to give the total grade point averages, and intelligence quotient averages, for each group over the three year period. Relation of grade point and intelligence quotient averages were compared graphically in table XXIX.

A further study of the scholastic achievements of elementary school groups during their seventh grade year was based on a comparison of grade point averages in academic and special subjects, English, mathematics, science, and social studies, were considered as academic subjects, while industrial arts, music, and physical education, were considered as special subjects.

Grade point averages in both academic and special subjects for the year 1936-37 were tabulated in table XXX. From these data, grade point averages in academic and special subjects were figured for comparison with each other and with the grade point averages of all subjects. Similar tabulations and computations were made for the years 1937-38 and 1938-39, as shown in tables XXXII and XXXIV respectively. Graphic comparisons for academic, special, and all subjects for each year were made in tables XXXI, XXXIII, and XXXV. Final tabulations for comparison of grade point averages over the three year period were recorded in table XXXVI; the final relationships, shown graphically, of academic, special, and all subjects were made in table XXXVII.

## RESULTS

Data compiled and used in making a comparison of scholastic achievements of elementary school groups in Ponca City Junior High School are presented in tables I to XXXVII. A careful attempt has been made to organize pertinent data in logical sequence, thereby developing a complete statistical picture from which definite conclusions could be formulated. An analysis of these tables reveals many variations, most of which are of minor significance and will not be discussed in detail.

Table I shows group 4 to be highest in English with a grade point

average of 3.568. This is .631 of a point more than that of group 2 in second place, and 1.378 points greater than the low average of 2.190 made by group 7, closely followed by group 5 with a 2.194 average.

It must be noted that group 4 received four of the five A marks given for the year, while group 7 made no A's, but had seventeen C- marks, a predominately high number.

In mathematics, table II shows group 4 again at the top with a .295 margin over group 3. A wide margin, 1.367 points, separates group 4 and group 7 in last place with a grade point average of 1.928. All other groups are reasonably close to the total grade point average of 2.692.

In science, table III shows group 4 ahead with a 3.454 average. Again group 7 is low with 2.190, which is 1.264 points lower than that of group 4. Group 7 continues to score heavily in the number of C- and F marks.

Table IV shows a universal distribution of grade marks in social studies, only groups 3, 4, and 5 failing to register in all classifications. Groups 4 and 7 rank highest and lowest with grade point averages of 3.454 and 1.952 respectively, a difference of 1.502 points.

Table V shows group 4 predominating with a 3.500 average, .700 of a point more than group 1, the nearest competitor. Group 5 shares the lowest average, 2.250, with group 7.

Table VI, showing results in the subject of music, has five exceptionally high grade point averages. Group 2, with a 4.395 average, and group 1, with a 4.000 average, rank first and second. Groups 4, 5, and 6, have an average of 3.750 points each. The lowest average, 2.761 is that of group 7 and is 1.634 points below group 2. Groups 7 and 3 are



extremely low in comparison with the grade point average of all groups.

In physical education, table VII shows group 1 with the high average of 4.162. Group 4 with 4.081 is only a fractional point below. The 2.700 of group 3 is the lowest grade point average recorded. It is 1.462 points lower than the average of group 1, and .972 of a point less than grade point average of all groups. The distribution of scholastic marks in the lower classifications is small, only twelve C-'s and one F being tabulated.

A comparison of grade point and I. Q. averages, table VIII, shows group 4 with the highest total grade point average in all subjects for 1936-37. Excepting music and physical education, group 4 ranks first consistently. The I. Q. average of this group is 109, third highest for all groups. Incidentally, group 3, with the highest I. Q. average, 112, has a grade point average of 2.790, which is the third lowest. Group 7 has the lowest total average, 2.324, which is .656 of a point below the total average for all groups and 1.262 points less than the highest average of group 4. Group 7 ranks last in all subjects, except physical education.

A comparison of total grade point and I. Q. averages is shown graphically in table IX. The scholastic achievement of group 4 is greater in relation to its I. Q. average than that of any other group. Groups 1, 2, and 6, show similar relationships, but not in as great proportions. The achievement of group 7 is lower in relation to its I. Q. average than that of any other group. Group 5 shows the closest relationship between grade point and I. Q. averages, although both are slightly below the averages for all groups.

TABLE I

Distribution of scholastic marks given in seventh grade English during the school year 1936-37

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1	1	4	11	13	13	7	3	2.730
2		7	10	15	7	7	2	2.937
3		2	2	2	5	1		2.916
4	4	8	13	7	8	4		3.568
5			4	10	11	11		2.194
6			3	8	3	6		2.400
7		3	6	6	9	17	1	2.190
Totals	5	24	49	61	56	53	6	2.732

TABLE II

Distribution of scholastic marks given in seventh grade mathematics during the school year 1936-37

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1		5	8	18	12	7	2	2.730
2		2	10	16	15	4	1	2.750
3		1	4	2	4	1		3.000
4	2	3	12	18	7	2		3.295
5	1	2	5	13	7	8		2.694
6		2	1	6	8	3		2.550
7		3	3	6	11	14	5	1.928
Totals	3	18	43	79	64	39	8	2.692



TABLE III

Distribution of scholastic marks given in seventh grade science during the school year 1936-37

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1	3	5	16	8	13	7		3.153
2		4	10	17	12	4	1	2.895
3		1	2	2	7			2.750
4	3	3	18	10	7	3		3.454
5		3	6	9	7	9	2	2.472
6		3	4	3	8	2		2.900
7		2	5	12	8	10	5	2.190
Totals	6	21	61	61	62	35	8	2.862

TABLE IV

Distribution of scholastic marks given in seventh grade social studies during the school year 1936-37

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1	3	4	10	19	9	5	2	3.038
2	1	6	7	20	9	4	1	3.041
3		1	2	3	6			2.833
4	2	8	11	12	9	2		3.454
5	2	4	5	4	6	14	1	2.500
6		2	4	4	4	6		2.600
7	1	2	5	3	12	13	6	1.952
Totals	9	27	44	65	55	44	10	2.811

TABLE V

Distribution of scholastic marks given in seventh grade industrial arts during the school year 1936-37

Group								Grade Point Average
	A	A-	B	B-	C	C-	F	
1		5	10	13	16	4	2	2.800
2	2		7	19	14	6		2.729
3		1	1	2	6	2		2.416
4	1	6	19	10	4	4		3.500
5		1	5	7	12	11		2.250
6			5	6	8	1		2.750
7			7	8	15	8	2	2.250
Totals	3	13	54	65	75	36	4	2.720



TABLE VI

Distribution of scholastic marks given in seventh grade music during the school year 1936-37

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1	5	15	16	9	5	2		4.000
2	8	16	14	7	3			4.395
3			5	3	2	2		2.916
4	8	9	7	11	5	1	3	3.750
5	2	9	12	5	7	1		3.750
6	3	5	3	5	1	3		3.750
7	3	3	10	7	6	10	3	2.761
Totals	29	57	67	47	29	19	6	3.720

TABLE VII

Distribution of scholastic marks given in seventh grade physical education during the school year 1936-37

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1	6	9	9	11	2			4.162
2	3	8	9	5	1	5	1	3.625
3			4	1	3	2		2.700
4	7	6	11	9	4			4.081
5		4	4	5	2			3.666
6			9	4				3.692
7	1	1	11	9	6	5		3.000
Totals	17	28	57	44	18	12	1	3.672

TABLE VIII

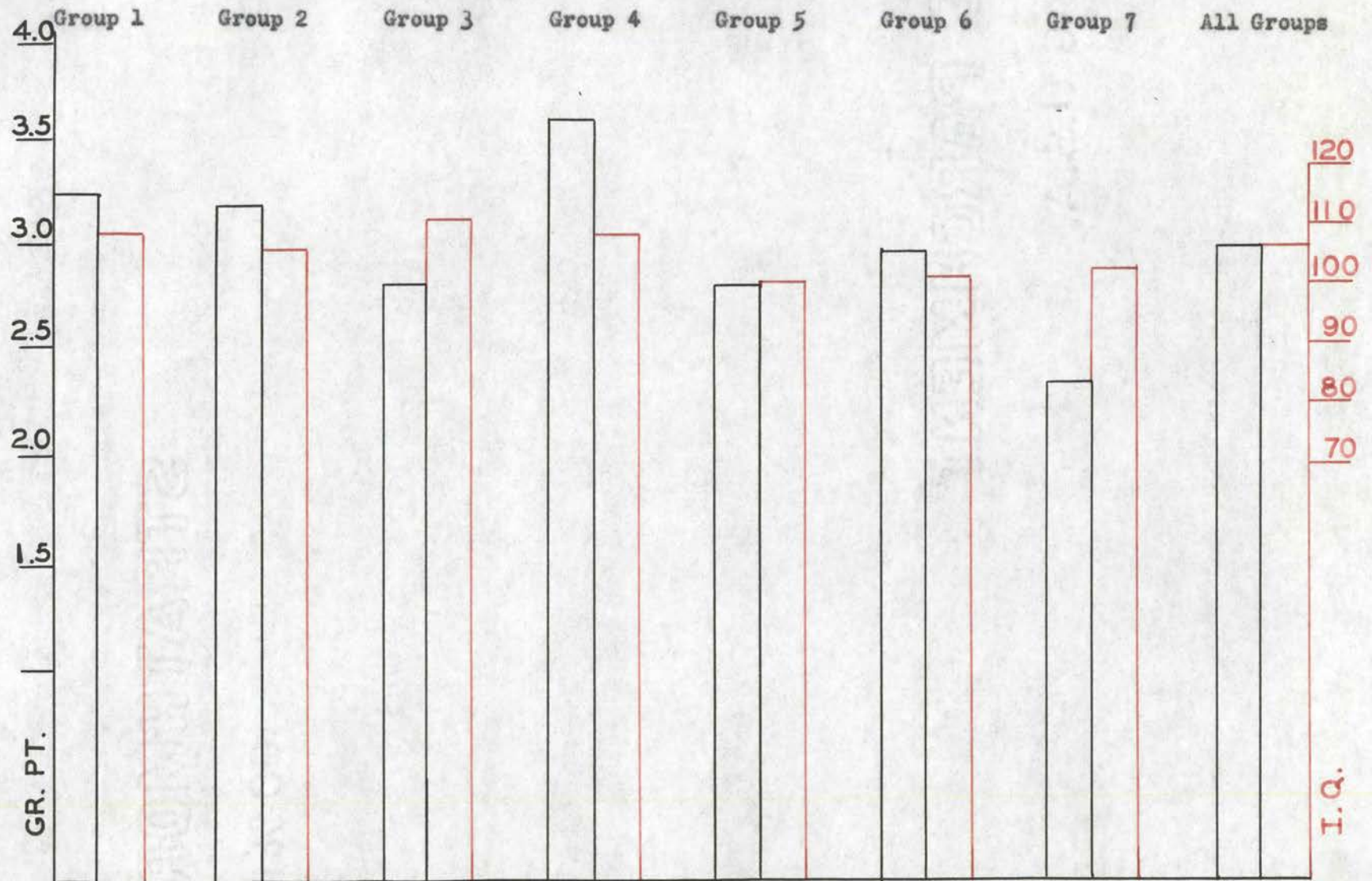
Grade point and I. Q. averages of seventh grade students during the school year 1936-37

Group	Grade Point Average in							Total Grade Pt. Average	I. Q. Average
	English	Math	Science	Social Studies	Ind. Arts	Music	Phys. Educ.		
1	2.730	2.730	3.153	3.038	2.800	4.000	4.162	3.230	110
2	2.937	2.750	2.895	3.041	2.729	4.395	3.625	3.196	107
3	2.916	3.000	2.750	2.833	2.416	2.916	2.700	2.790	112
4	3.568	3.295	3.454	3.454	3.500	3.750	4.081	3.586	109
5	2.194	2.694	2.472	2.500	2.250	3.750	3.666	2.789	101
6	2.400	2.550	2.900	2.600	2.750	3.750	3.692	2.948	102
7	2.190	1.928	2.190	1.952	2.250	2.761	3.000	2.324	103
Total Average	2.732	2.692	2.862	2.811	2.720	3.720	3.672	2.980	106



TABLE IX

Comparison of total grade point and I. Q. averages for the school year 1936-37



With table X, the study of comparisons for 1937-38 is begun. It is immediately noted that the grade point averages in English are closely grouped. The highest average, 2.967, of group 2 is .503 of a point above the lowest average made by group 6.

Table XI shows the distribution of marks and averages for mathematics. Group 3's average of 3.055 is barely above the 3.042 of group 4. However, there is a considerable drop to the 2.295 average of group 7, a difference of .760 of a point.

In science, table XII shows all averages to be generally lower. The distribution of A and A- marks is very low while an increase is noted in the number of C and C- classifications. Group 3 has an average of 2.833, which is .470 of a point above the 2.363 points of group 7, a relatively small difference between the high and low point averages.

The 3.257 point average of group 4 is highest in social studies, table XIII. Point averages of all groups are generally higher, making a correspondingly high total average of 2.934. Even group 7, with the lowest average, has a 2.636 score.

In industrial arts, table XIV, group 2 is highest with an average of 3.274. This is only a small fraction of a point above the 3.228 and 3.214 averages of groups 4 and 6 respectively. Group 7 is low with a 2.727 average, .547 of a point less than that of group 2.

The distribution of high scholastic marks in music is exceptionally large. Table XV shows that out of a total of 334 marks given, 227 were A's, A-'s, and B's. Group 6 surpasses all others with the very high average of 4.607. Group 5 follows with 4.369, only .092 of a point ahead of group 3's average of 4.277. It is noted that group 6 and group 3 did not receive any marks below B-, while group 5 received only

one mark, a C, below that level. Group 7 is lowest again with an average of 3.500, a comparatively high score in itself, but still 1.107 points below that of group 6.

Table XVI shows the distribution of marks and grade point averages in physical education. Group 2 is first with an average of 4.000 points. This is .765 of a point more than the 3.235 average of group 7 in last place. The remaining groups show a very narrow range of variation in their averages, none being more than .165 of a point above or below the total grade point average of 3.665. Special attention is called to the fact that no F marks were given.

A summary of grade point averages in all subjects is contained in table XVII showing grade point and I. Q. averages for the year 1937-38. Group 3 is highest with a total grade point average of 3.269. Highest rankings are more widely distributed among the various groups than was the case in 1936-37. Group 2 placed first in English, industrial arts, and physical education; group 3, first in mathematics and science; group 4, first in social studies; and group 6, first in grade point average; group 3 is highest in I. Q. average, having 111. The grade point average of group 7 is lowest of all for the year. English is the only subject in which this group placed other than last.

The graphic comparisons of grade point and I. Q. averages in table XVIII show that a very close relationship exists between the two for most groups. Groups 3, 5, and 6, are exceptionally close in this respect. Also, the comparative relationship between groups does not show any great degree of variation. Group 7 presents the most striking difference with the lowest grade point average of 2.754 and an I. Q. average of 106, one point above the average for all groups.



TABLE X

Distribution of scholastic marks given in seventh grade English during the school year 1937-38

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1	1	6	17	8	13	12	9	2.515
2	3	10	9	16	12	8	4	2.967
3			5	8	4	1		2.944
4		11	10	13	19	14	3	2.657
5	1	5	9	12	11	5	3	2.826
6		2	6	5	7	6	2	2.464
7	1	5	5	10	10	10	3	2.522
Totals	6	39	61	72	76	56	24	2.691

TABLE XI

Distribution of scholastic marks given in seventh grade mathematics during the school year 1937-38

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1		6	12	15	18	12	3	2.590
2	1	4	16	13	15	9	4	2.709
3		2	5	6	3	1	1	3.055
4	2	8	16	22	10	11	1	3.042
5		5	8	14	12	7		2.826
6		4	5	7	7	5		2.857
7	2	1	5	9	12	13	2	2.295
Totals	5	30	67	86	77	58	11	2.748

TABLE XII

Distribution of scholastic marks given in seventh grade science during the school year 1937-38

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1			11	22	18	11	4	2.378
2	2	5	11	16	14	12	2	2.725
3			4	9	3	2		2.833
4		8	15	15	20	12		2.814
5		3	8	9	15	10	1	2.478
6			6	9	9	3	1	2.571
7	1	3	6	6	15	11	2	2.363
Totals	3	19	61	86	94	61	10	2.586



TABLE XIII

Distribution of scholastic marks given in seventh grade social studies during the school year 1937-38

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1		9	14	14	19	9	1	2.878
2	2	7	8	16	14	13	2	2.709
3		2	7	3	4	2		3.166
4	6	8	18	13	17	7	1	3.257
5		7	7	14	11	6	1	2.891
6	2	4	4	8	6	4		3.142
7	1	2	9	12	10	8	2	2.636
Totals	11	39	67	80	81	49	7	2.934

TABLE XIV

Distribution of scholastic marks given in seventh grade industrial arts during the school year 1937-38

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1		4	14	19	24	4	1	2.803
2	5	3	22	14	10	8		3.274
3			6	9	2	1		3.111
4	2	3	23	24	17	1		3.228
5	2		11	14	17	2		2.913
6	1	2	8	9	7	1		3.214
7	1		11	14	11	6	1	2.727
Totals	11	12	95	103	88	23	2	3.035

TABLE XV

Distribution of scholastic marks given in seventh grade music during the school year 1937-38

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1	6	15	22	9	8	3	3	3.712
2	6	11	27	13	4	1		3.983
3	1	5	10	2				4.277
4	1	24	19	20	3	3		3.871
5	10	10	14	11	1			4.369
6	6	8	11	3				4.607
7	3	4	14	15	7	1		3.500
Totals	33	77	117	73	23	8	3	3.964



TABLE XVI

Distribution of scholastic marks given in seventh grade physical education during the school year 1937-38

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1	1	13	8	12	6	2		3.642
2	4	14	10	13	3	1		4.000
3		1	4	4	1			3.500
4	1	10	13	12	7			3.674
5	3	6	3	9	5			3.730
6		2	4	1	2			3.666
7	1	6	8	6	11	2		3.235
Totals	10	52	50	57	35	5		3.665

TABLE XVII

Grade point and I. Q. averages of seventh grade students during the school year 1937-38

Group	Grade Point Average in							Total Grade Pt. Average	I. Q. Average
	English	Math	Science	Social Studies	Ind. Arts	Music	Phys. Educ.		
1	2.515	2.590	2.378	2.878	2.803	3.712	3.642	2.931	104
2	2.967	2.709	2.725	2.709	3.274	3.983	4.000	3.195	100
3	2.944	3.055	2.833	3.166	3.111	4.277	3.500	3.269	111
4	2.657	3.042	2.814	3.257	3.228	3.871	3.674	3.220	100
5	2.826	2.826	2.478	2.891	2.913	4.369	3.730	3.147	106
6	2.464	2.857	2.571	3.142	3.214	4.607	3.666	3.217	107
7	2.522	2.295	2.363	2.636	2.727	3.500	3.235	2.754	106
Total Average	2.691	2.748	2.586	2.934	3.035	3.964	3.665	3.105	105

TABLE XVIII

Comparison of total grade point and I. Q. averages for the school year 1937-38

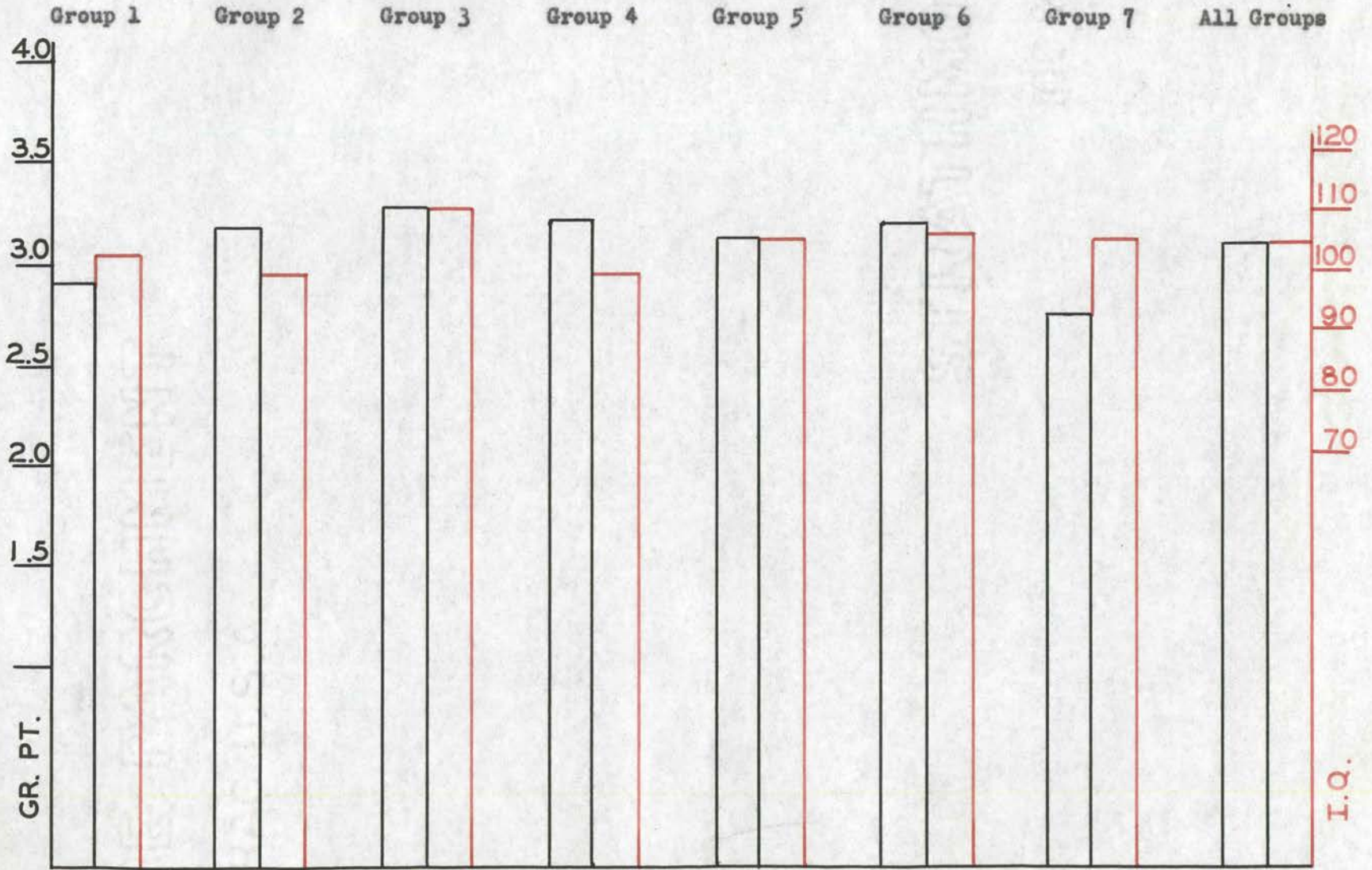




Table XIX shows the data compiled for English, the first subject to be considered in comparing achievements for 1938-39, the third and last year included in this study. Two particularly high grade point averages are recorded. The 3.638 point average of group 2 is the highest and is 1.013 points above the 2.625 average of group 3 in last place. Only groups 2 and 5 have averages above the average for all groups.

In mathematics, table XX, group 5 is highest with an average of 3.476, which is .869 of a point greater than the 2.607 average of group 7 and .431 of a point above the 3.045 average of all groups.

Table XXI, showing data in the subject of science, presents a greater range of grade point averages. Group 5 is highest with an 3.833 average, almost a B rating. The extremely low average of 1.875 points made by group 3 is 1.958 points less than the highest. The difference is greater than the total grade point average of group 3. Groups 7 and 1 present comparatively low averages with 2.678 and 2.659 respectively.

Table XXII shows four groups with relatively high grade point averages. Of these, group 5 is highest with an average of 3.738, followed in order by groups 4, 2, and 6, with averages of 3.480, 3.361, and 3.353. In contrast, group 3 has a low average of 2.000 points, while group 1's average of 2.977 and group 7's average of 2.714 are both low in comparison to the 3.262 average of all groups.

In industrial arts, table XXIII shows six groups with grade point averages of more than 3 points. Their range in variation is relatively small in comparison with the 3.331 average of all groups. Group 5 ranks highest again with a point average of 3.619. Group 3 possesses the lowest average, 2.750.

The peak of high averages in music is reached in table XXIV. Grade point averages of 4.880 for group 5, 4.527 for group 2, 4.352 for group 6, 4.269 for group 4 and 4.022 for group 1 are outstandingly high. The highest, 4.880, is .698 of a point greater than the 4.192 average of all groups, and 2.380 points greater than the 2.500 average of group 3. Scholastic marks in the A, A-, and B classifications are predominant.

Table XXV shows that group 4 is highest with a grade point average of 3.861 in physical education. Group 5 is next with 3.761, only .100 of a point less. Group 3, with an average of 2.500, is .900 of a point below the average of 3.400 for all groups. No F marks, and only two C- marks are included in the distribution of scholastic marks.

A comparison of grade point and I. Q. averages for the entire year 1938-39, table XXVI, shows group 5 in top position with an average of 3.819, almost a B rating. For all subjects, group 5 has five highest and two second highest averages, which is exceptionally consistent. The I. Q. average of group 5 is 107, the second highest for all groups. Group 3 is last in the rankings for 1938-39, replacing group 7 which was lowest for 1936-37 and 1937-38. Group 3's average of 2.428 is 1.391 points lower than first place and .802 of a point less than the 3.230 average for all groups. Although lowest in grade point averages, group 3 is above the I. Q. average of all groups, having 107.

A graphic interpretation of grade point and I. Q. averages for 1938-39, table XXVII, presents two comparatively wide variations. The achievement of group 5 is well above the I. Q. average for the group. Group 3 shows a condition in the opposite direction with an achievement average considerably lower than its corresponding I. Q. average. Other groups show closer relationships, group 1 and 6 being best in this

TABLE XIX

Distribution of scholastic marks given in seventh grade English during the school year 1938-39

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1		7	7	13	10	7		2.931
2		13	7	10	3	2	1	3.638
3			2	3	1	2		2.625
4	2	3	15	16	10	6		3.096
5	1	11	6	15	5	4		3.428
6		8	4	4	13	4	1	2.882
7		4	5	6	10	1	2	2.821
Totals	3	46	46	67	52	26	4	3.127



TABLE XX

Distribution of scholastic marks given in seventh grade mathematics during the school year 1938-39

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1	4	6	5	12	9	7	1	3.068
2	5	1	9	8	10	3		3.277
3			2	3	2	1		2.750
4	2	7	4	18	9	11	1	2.807
5	4	5	9	15	7	2		3.476
6	2	6	5	9	7	4	1	3.147
7	1	4	4	5	5	6	3	2.607
Totals	18	29	38	70	49	34	6	3.045



TABLE XXI

Distribution of scholastic marks given in seventh grade science during the school year 1938-39

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1		6	5	14	6	13		2.659
2	1	6	8	9	10	2		3.250
3				2	4	1	1	1.875
4	1	7	12	16	10	5	1	3.115
5	6	8	9	11	8			3.833
6	2	6	7	7	6	6		3.205
7	1		10	3	7	7	1	2.678
Totals	11	33	51	62	51	33	3	3.098

TABLE XXII

Distribution of scholastic marks given in seventh grade social studies during the school year 1938-39

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1	1	7	11	7	8	9	1	2.977
2		7	13	5	8	3		3.361
3			1	1	3	3		2.000
4		10	18	14	7	3		3.480
5	1	12	13	9	5	2		3.738
6		5	9	14	5	1		3.353
7		3	7	4	8	5	1	2.714
Totals	2	44	72	54	44	26	2	3.262

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TABLE XXIII

Distribution of scholastic marks given in seventh grade industrial arts during the school year 1938-39

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1	2	6	13	14	8	1		3.477
2		7	11	10	8			3.472
3			2	2	4			2.750
4	2	1	19	18	12			3.288
5	2	6	17	9	7	1		3.619
6		1	11	14	5	2	1	3.029
7		6	7	5	5	4	1	3.107
Totals	6	27	80	72	49	8	2	3.331



TABLE XXIV

Distribution of scholastic marks given in seventh grade music during the school year 1938-39

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1	14	2	12	6	7	3		4.022
2	8	11	10	6	1			4.527
3				5	2	1		2.500
4	11	8	20	10	3			4.269
5	14	11	15	2				4.880
6	15	1	9	2	5	1	1	4.352
7	2	2	6	10	4	4		3.142
Totals	64	35	72	41	22	9	1	4.192



TABLE XXV

Distribution of scholastic marks given in seventh grade physical education during the school year 1938-39

Group	Number of Marks Given							Grade Point Average
	A	A-	B	B-	C	C-	F	
1		6	2	15	7			3.233
2		4	6	8	10			3.142
3				4	4			2.500
4		13	11	6	6			3.861
5	2	5	4	6	4			3.761
6		2	5	5	3			3.400
7		5	3	7	5	2		3.181
Totals	2	35	31	51	39	2		3.400

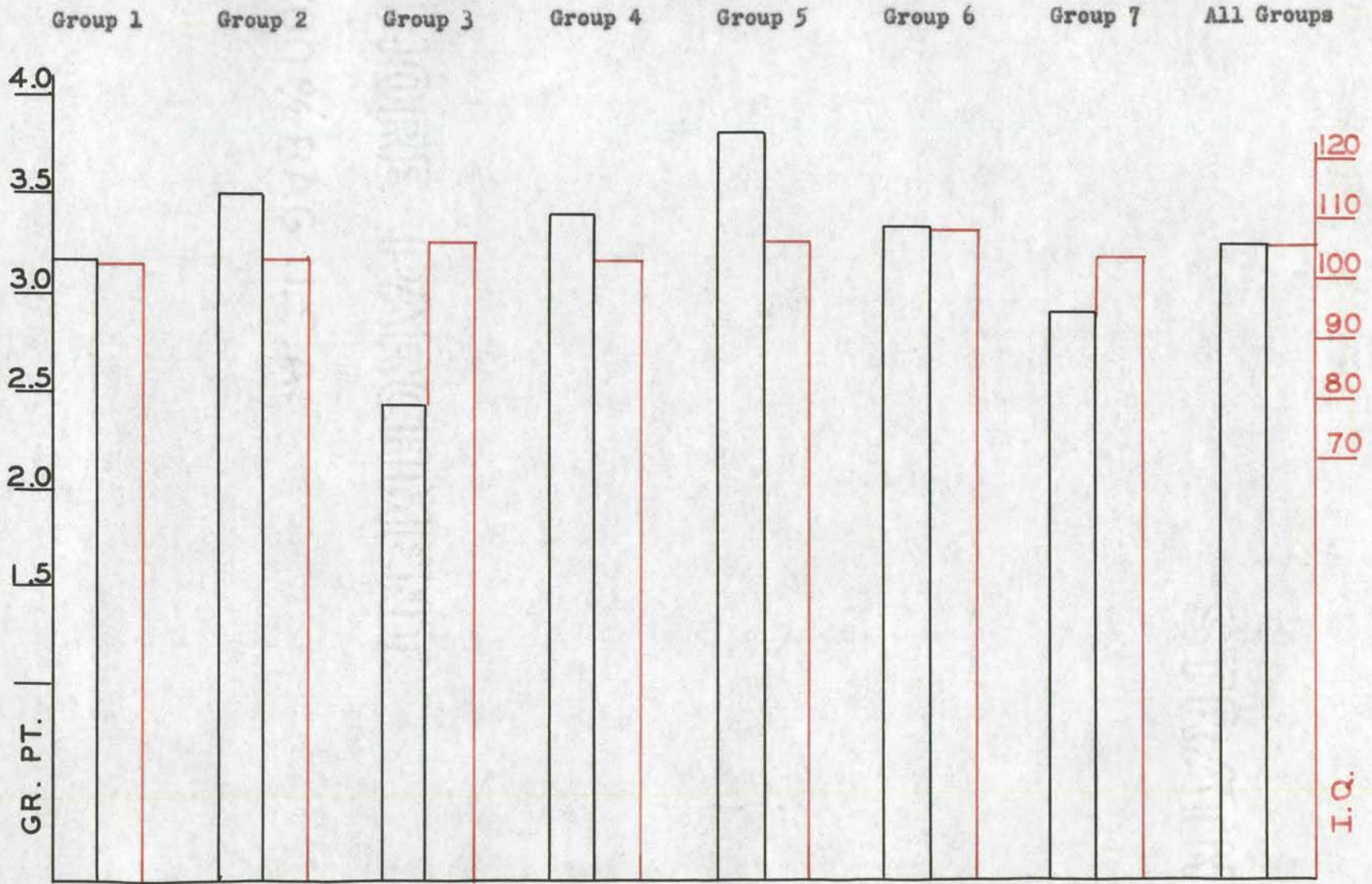
TABLE XXVI

Grade point and I. Q. averages of seventh grade students during the school year 1938-39

Group	Grade Point Average in							Total Grade Pt. Average	I. Q. Average
	English	Math	Science	Social Studies	Ind. Arts	Music	Phys. Educ.		
1	2.931	3.068	2.659	2.977	3.477	4.022	3.233	3.195	104
2	3.638	3.277	3.250	3.361	3.427	4.527	3.142	3.523	105
3	2.625	2.750	1.875	2.000	2.750	2.500	2.500	2.428	107
4	3.096	2.807	3.115	3.480	3.288	4.269	3.861	3.416	104
5	3.428	3.476	3.833	3.738	3.619	4.880	3.761	3.819	107
6	2.882	3.147	3.205	3.353	3.029	4.352	3.400	3.338	109
7	2.821	2.607	2.678	2.714	3.107	3.142	3.181	2.892	104
Totals	3.127	3.045	3.098	3.262	3.331	4.192	3.400	3.230	106

TABLE XXVII

Comparison of total grade point and I. Q. averages for the school year 1938-39





respect. Besides group 3, group 7 is the only other to show an unfavorable relation between grade point and I. Q. averages.

Table XXVIII shows a compilation of the total grade point and I. Q. averages over the three year period. Group 4 is highest with a grade point average of 3.407. The lowest average is that of group 7, 2.657. The average for all groups is 3.105 points. Attention is called to the proximity of each group's average to the average of all groups. Group 4 is .302, group 2 is .200, group 5 is .147, group 6 is .063, and group 1 is .014 of a point above the average. Group 3 is .276 of a point below, while group 7 has the largest margin of difference with .488 of a point below the all group average. The I. Q. average for all groups over the three year period is 106. The highest is 110, the lowest 104. Group 3, with the highest I. Q. average, is next to the lowest in grade point average, while group 4, with one of the lowest I. Q. averages, 104, is the highest in grade point average.

Turning to table XXIX for a graphic picture of the grade point and I. Q. relationships over the three year period, it is noted that the range of variations is comparatively narrow. Groups 1 and 6 show the closest relationships between grade point and I. Q. averages. Also, these two groups show the closest relationship to the all group averages. Groups 4, 2, and 5 show grade point averages slightly above I. Q. averages, but the amount of variation in relationships is small. Group 4 shows the widest relationship between its own grade point and I. Q. averages, but in comparison with the averages of other groups and the all group average, its variations are not so pronounced. Groups 3 and 7 show almost identical relationships between grade point and I. Q. averages. However, in comparing grade point averages with



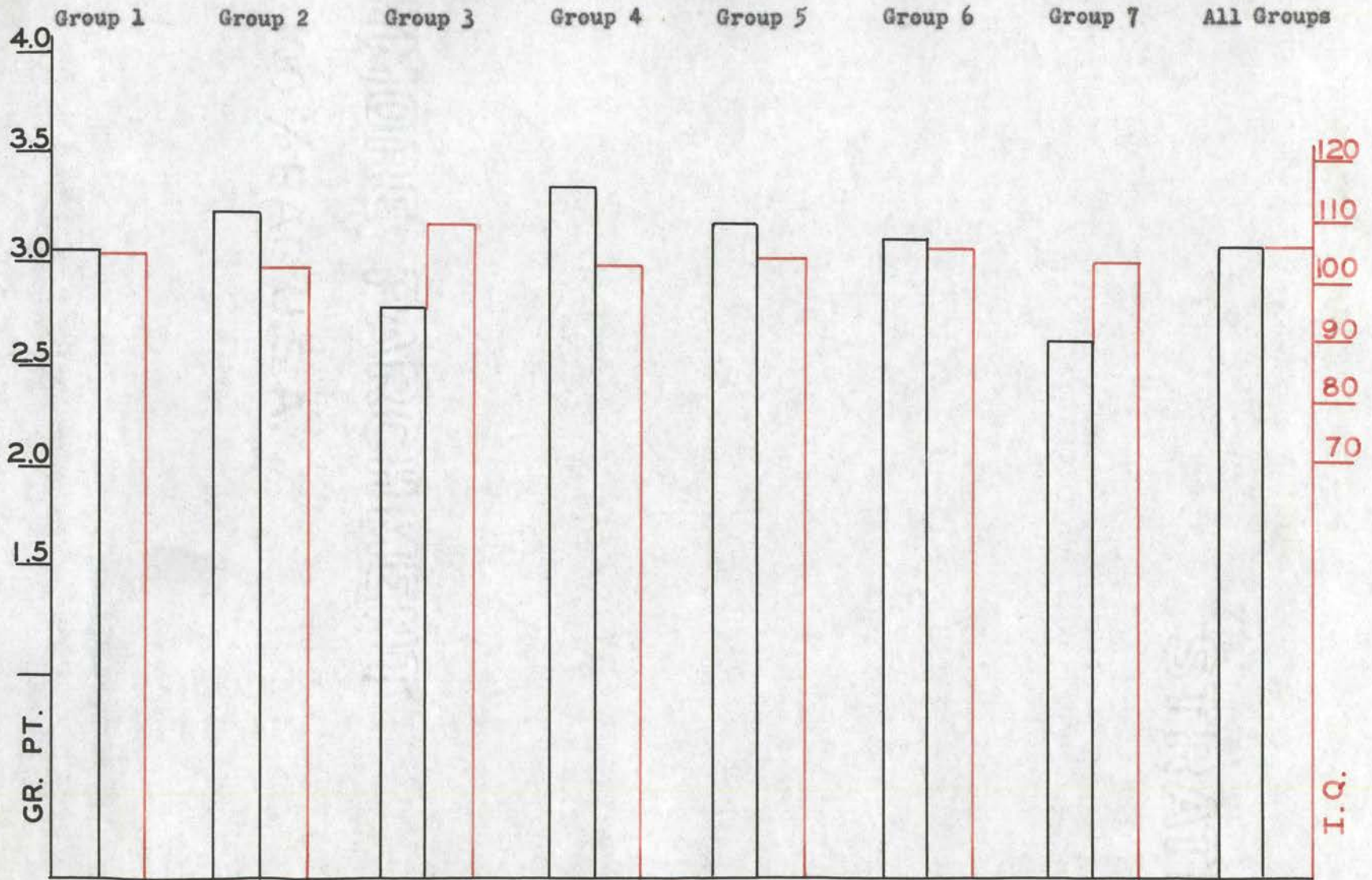
TABLE XXVIII

Grade point and I. Q. averages of seventh grade students over three year period

Group	Grade Point Averages			Total Grade Pt. Average	I. Q. Averages			Total I. Q. Average
	1936-37	1937-38	1938-39		1936-37	1937-38	1938-39	
1	3.230	2.931	3.195	3.119	110	104	104	106
2	3.196	3.195	3.523	3.305	107	100	105	104
3	2.790	3.269	2.428	2.829	112	111	107	110
4	3.586	3.220	3.416	3.407	109	100	104	104
5	2.798	3.147	3.819	3.252	101	106	107	105
6	2.948	3.217	3.338	3.168	102	107	109	106
7	2.324	2.754	2.892	2.657	103	106	104	104
Total All Groups	2.980	3.105	3.230	3.105	106	105	106	106

TABLE XXIX

Comparison of total grade point and I. Q. averages over three year period - 1936 to 1939



other and all group averages, group 7 presents a greater range of relationships than does group 3.

Up to this point in the thesis, the study of scholastic marks and intelligence quotients has been made on a quantitative basis. For making comparisons on the basis of correlation between grade point and I. Q. averages, coefficients of correlation were figured for each group during each yearly period, as well as for the three year period. The results are presented here.

COEFFICIENTS OF CORRELATION BETWEEN  
GRADE POINT AND I. Q. AVERAGES

<u>Group</u>	<u>1936-37</u>	<u>1937-38</u>	<u>1938-39</u>	<u>1936-39</u>
1	$r$ .523	$r$ .834	$r$ .748	$r$ .723
2	$r$ .665	$r$ .582	$r$ .807	$r$ .665
3	$r$ .477	$r$ .212	$r$ .464	$r$ .361
4	$r$ .524	$r$ .796	$r$ .410	$r$ .628
5	$r$ .691	$r$ .666	$r$ .630	$r$ .653
6	$r$ .426	$r$ .480	$r$ .680	$r$ .484
7	$r$ .774	$r$ .786	$r$ .498	$r$ .702
All Groups	$r$ .558	$r$ .723	$r$ .597	$r$ .637

An analysis of the charted coefficients of correlation indicates, in general, a good, positive degree of correlation between grade point and I. Q. averages for most groups.

The highest coefficient recorded is  $r$ .834, that of group 1 for 1937-38. Group 1 also shows the highest coefficient of correlation for the three year period,  $r$ .723, even though its coefficient of  $r$ .523 for 1936-37 is considered only fair to good.



Group 2 shows positive correlations of .665, .582, and .807 consecutively for the three years, and a coefficient of  $r$ .665 over the three year period. This last figure ranks group 2 in third place among all groups for the three year period.

Group 3 shows consistently lower correlations over the entire period of the study. Coefficients of  $r$ .477 in 1936-37,  $r$ .212 in 1937-38, and  $r$ .464 in 1938-39 are not strong indications of positive relationships between grade point and I. Q. averages. The  $r$ .212 is especially insignificant. Over the 1936-39 period, group 3 is lowest of all groups with a coefficient of  $r$ .361, which is .362 of a point lower than the highest coefficient of group 1 and .276 of a point below the average coefficient of all groups.

The widest range of variation in correlations is presented by group 4 with a coefficient of  $r$ .410 in 1938-39, the second lowest recorded for any group, to a coefficient of  $r$ .796 in 1937-38, the third highest for any group. Between these extremes is a  $r$ .524 for 1936-37. A positive coefficient of correlation of  $r$ .628 over the 1936-39 period places group 4 in fifth position among all groups.

Group 5 shows the steadiest correlation between grade point and I. Q. averages throughout the three years. Coefficients of  $r$ .691 in 1936-37,  $r$ .666 in 1937-38, and  $r$ .630 in 1938-39 are exceptionally close to each other and, at the same time, indicate a good correlation between grade point and I. Q. averages. Group 5 is fourth highest among all groups with a coefficient of correlation of  $r$ .653.

In 1936-37 and 1937-38, group 6 shows coefficients of  $r$ .426 and  $r$ .480 respectively. These are considerably lower than the  $r$ .680 recorded for 1938-39. For the 1936-39 period, group 6 shows a coeffi-



cient of correlation of  $r = .484$ , which is next to the lowest for all groups.

Group 7 shows a strong degree of correlation between grade point and I. Q. averages for 1936-37 and 1937-38 with coefficients of  $r = .774$  and  $r = .786$  respectively, but drops off considerably in 1938-39 to a coefficient of  $r = .498$ . However, its coefficient of  $r = .702$  for the three year period is second highest for all groups.

A further analysis of data in the thesis leaves a general impression that grade point averages in special subjects are higher than in academic subjects. To determine definitely whether or not this is true, a comparison of grade point averages in special and academic subjects is begun in table XXX. A survey of the grade point averages for 1936-37 show that the 3.283 average for all groups in special subjects is .529 of a point greater than the 2.754 average in academic subjects. Only group 3, with an average of 2.790 points in special and 2.875 points in academic subjects, shows an average in favor of the academic subjects. The total average in industrial arts, 2.720, is slightly less than the 2.754 average for academic subjects, but the extra high averages in music and physical education are sufficient to offset this.

A graphic comparison of grade point averages in academic, special, and all subjects, table XXXI shows the averages in special subjects to be higher, excepting group 3.

For the year 1937-38, the comparison of grade point averages in academic and special subjects, table XXXII, shows that the average for every group is higher in special subjects. The total average for all

groups is 3.573 points, .819 of a point greater than the 2.754 average in academic subjects.

Table XXXIII shows the variations in relationships that exist between academic, special and all subjects.

Table XXXIV shows comparisons for 1938-39. Again the averages in special subjects are above those in academic subjects. This is true for all groups. The difference in total averages in academic and special subjects is .472 of a point, the smallest margin of difference between the two during any of the three years. Comparative relationships for 1938-39 are shown in table XXXV.

A summary of the comparison of grade point averages in academic and special subjects over the three year period, table XXXVI, shows that each group's average in special subjects is higher than its average in academic subjects. The total average of 3.542 in special subjects is .605 of a point more than the 2.847 average in academic subjects. Comparative relationships are summarized graphically in table XXXVII.

TABLE XXX

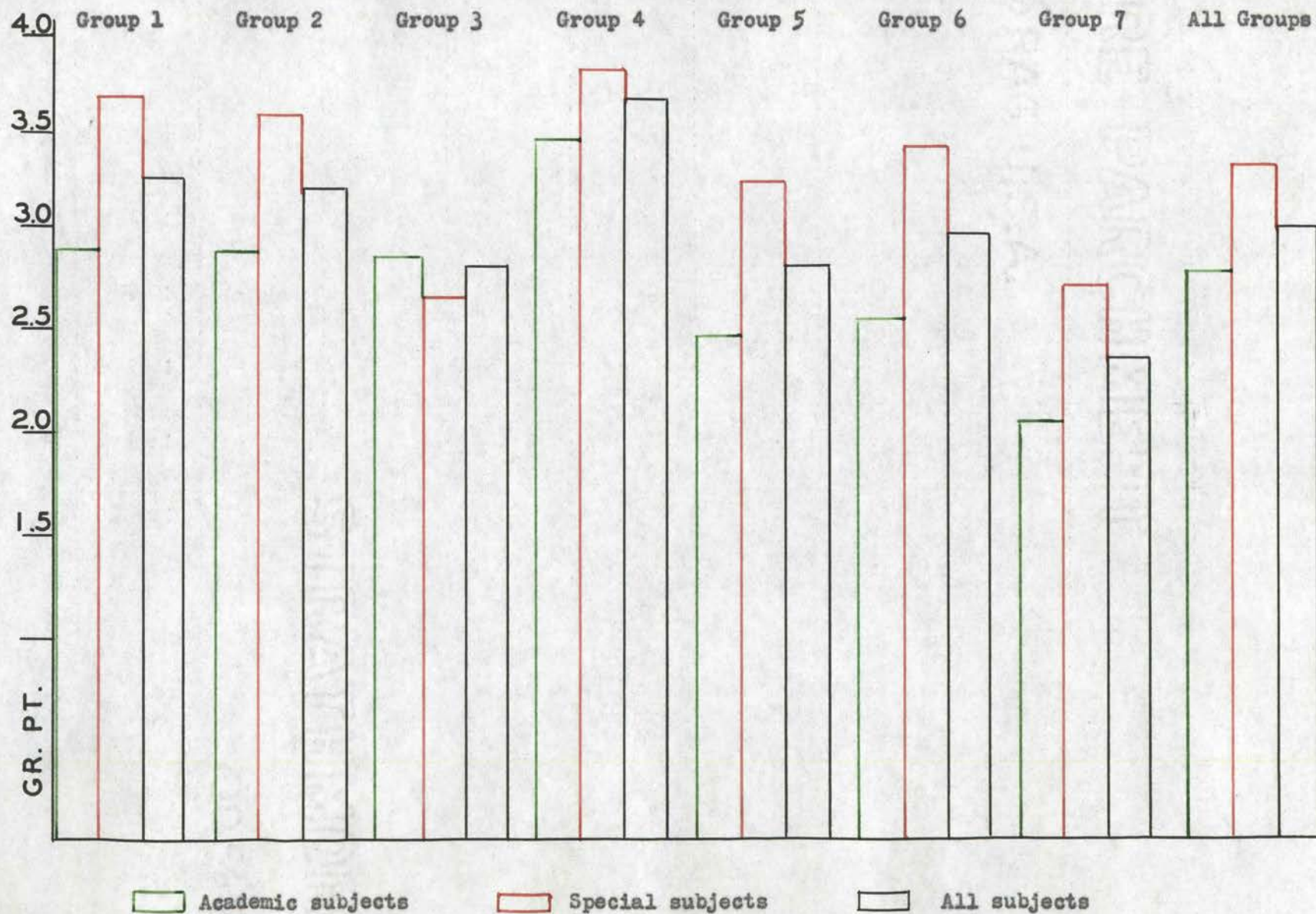
Comparison of grade point averages in academic and special subjects during the school year 1936-37

Group	Academic Subjects					Special Subjects				Grade Pt. Average All Sub.
	English	Math	Science	Social Studies	Average	Ind. Arts	Music	Phys. Educ.	Average	
1	2.730	2.730	3.153	3.038	2.913	2.800	4.000	4.162	3.654	3.230
2	2.937	2.750	2.895	3.041	2.906	2.729	4.395	3.625	3.583	3.196
3	2.916	3.000	2.750	2.833	2.875	2.416	2.916	2.700	2.677	2.790
4	3.568	3.295	3.454	3.454	3.443	3.500	3.750	4.081	3.777	3.586
5	2.194	2.694	2.472	2.500	2.465	2.250	3.750	3.666	3.222	2.789
6	2.400	2.550	2.900	2.600	2.613	2.750	3.750	3.692	3.397	2.948
7	2.190	1.928	2.190	1.952	2.065	2.250	2.761	3.000	2.670	2.324
Totals	2.732	2.692	2.862	2.811	2.754	2.720	3.720	3.672	3.283	2.980



TABLE XXXI

Comparison of grade point averages in academic and special subjects for school year 1936-37



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TABLE XXXII

Comparison of grade point averages in academic and special subjects during the school year 1937-38

Group	Academic Subjects					Special Subjects				Grade Pt. Average All Sub.
	English	Math	Science	Social Studies	Average	Ind. Arts	Music	Phys. Educ.	Average	
1	2.515	2.590	2.378	2.878	2.590	2.803	3.712	3.642	3.386	2.931
2	2.967	2.709	2.725	2.709	2.778	3.274	3.983	4.000	3.752	3.195
3	2.944	3.055	2.833	3.166	3.000	3.111	4.277	3.500	3.629	3.269
4	2.657	3.042	2.814	3.257	2.943	3.228	3.871	3.674	3.591	3.220
5	2.826	2.826	2.478	2.891	2.756	2.913	4.369	3.730	3.671	3.147
6	2.464	2.857	2.571	3.142	2.759	3.214	4.607	3.666	3.829	3.217
7	2.522	2.295	2.363	2.636	2.454	2.727	3.500	3.235	3.154	2.754
Totals	2.691	2.748	2.586	2.934	2.754	3.035	3.964	3.665	3.573	3.105

TABLE XXXIII

Comparison of grade point averages in academic and special subjects for school year 1937-38

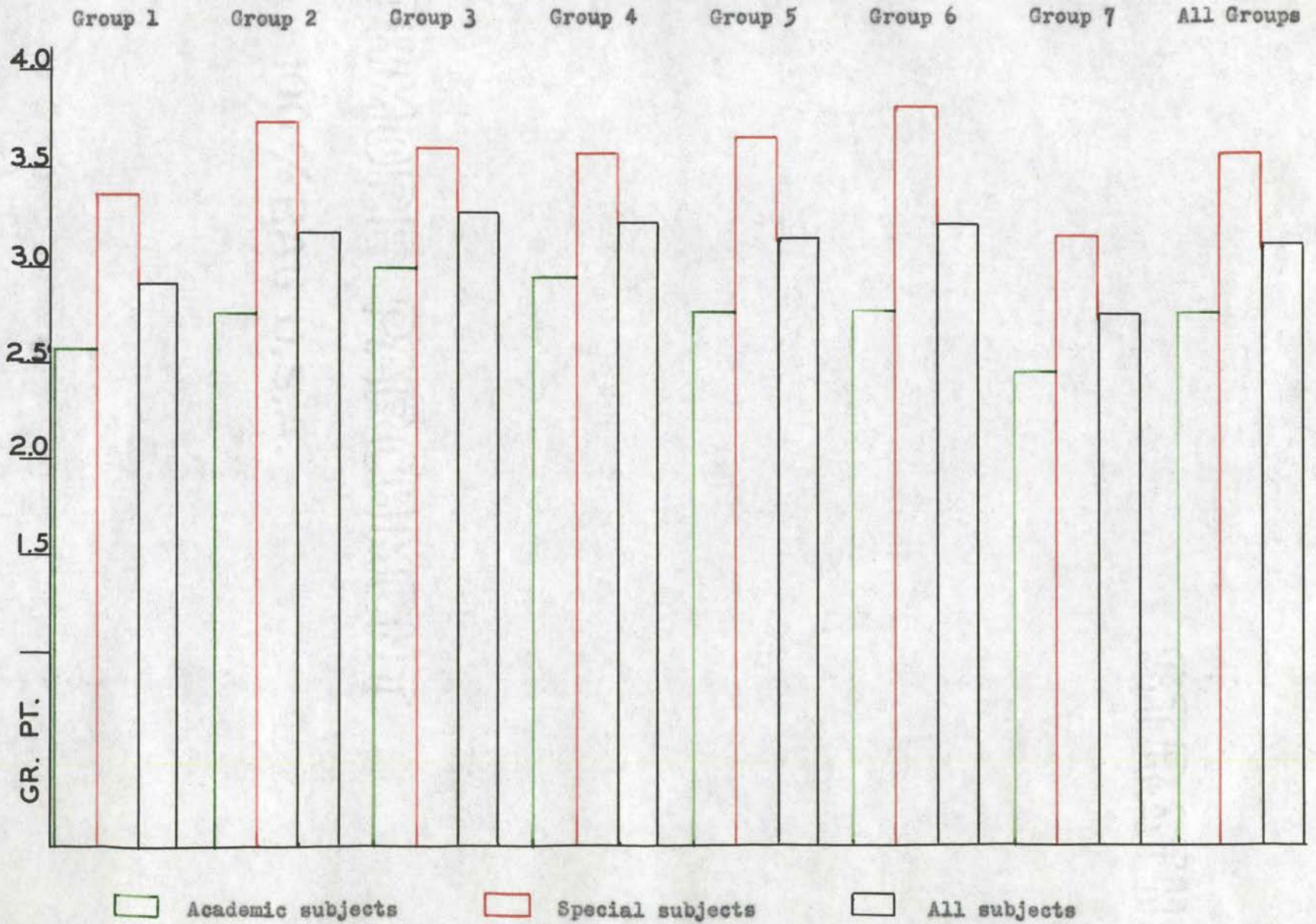


TABLE XXXIV

Comparison of grade point averages in academic and special subjects during the school year 1938-39

Group	Academic Subjects					Special Subjects				Grade Pt. Average All Sub.
	English	Math	Science	Social Studies	Average	Ind. Arts	Music	Phys. Educ.	Average	
1	2.931	3.068	2.659	2.977	2.909	3.477	4.022	3.233	3.577	3.195
2	3.638	3.277	3.250	3.361	3.382	3.472	4.527	3.142	3.714	3.523
3	2.625	2.750	1.875	2.000	2.313	2.750	2.500	2.500	2.583	2.428
4	3.096	2.807	3.115	3.480	3.125	3.288	4.269	3.861	3.806	3.416
5	3.428	3.476	3.833	3.738	3.619	3.619	4.880	3.761	4.087	3.819
6	2.882	3.147	3.205	3.353	3.147	3.029	4.352	3.400	3.594	3.338
7	2.821	2.607	2.678	2.714	2.705	3.107	3.142	3.181	3.143	2.892
Totals	3.127	3.045	3.098	3.262	3.029	3.331	4.192	3.400	3.501	3.230



TABLE XXXV

Comparison of grade point averages in academic and special subjects for school year 1938-39

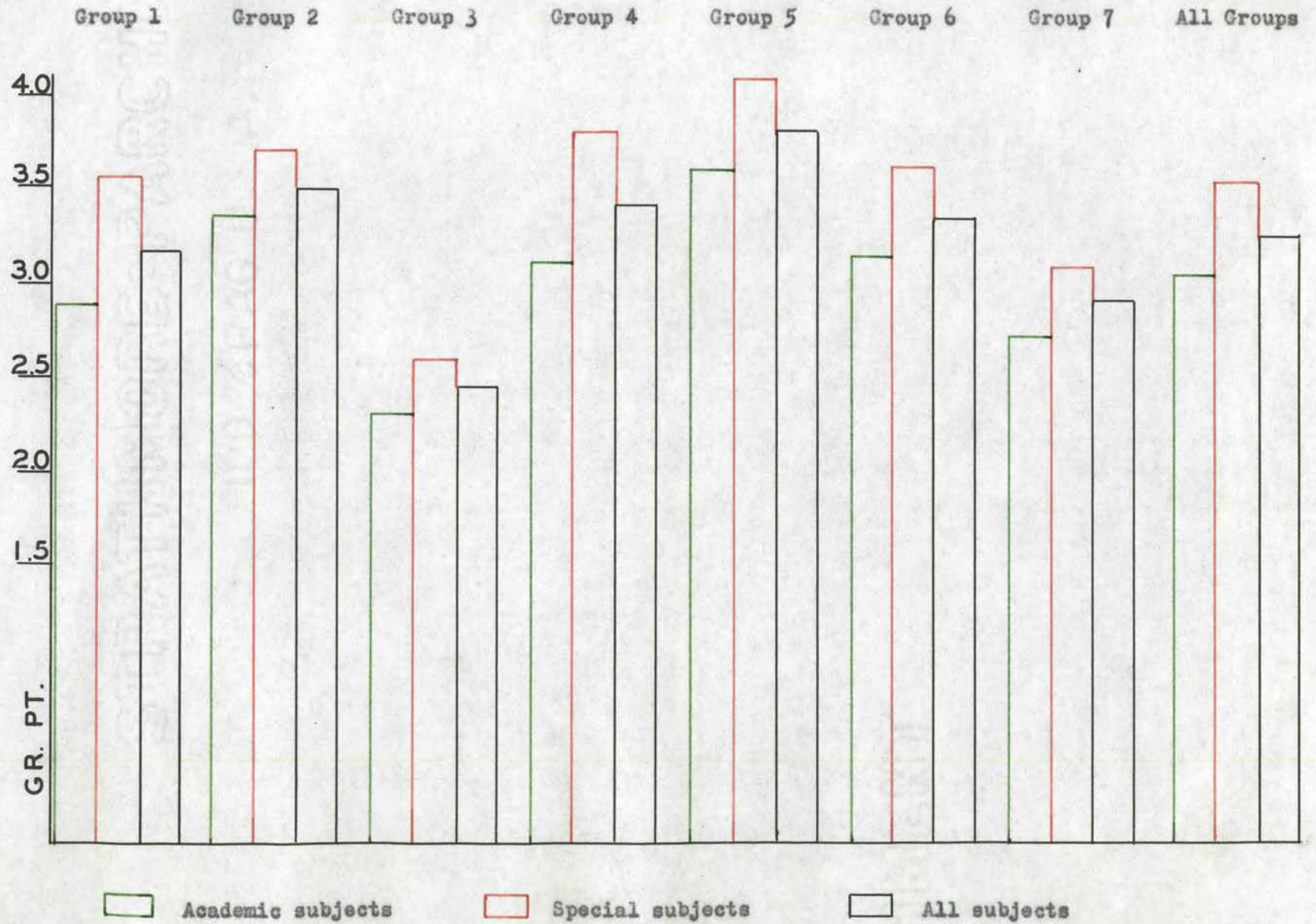




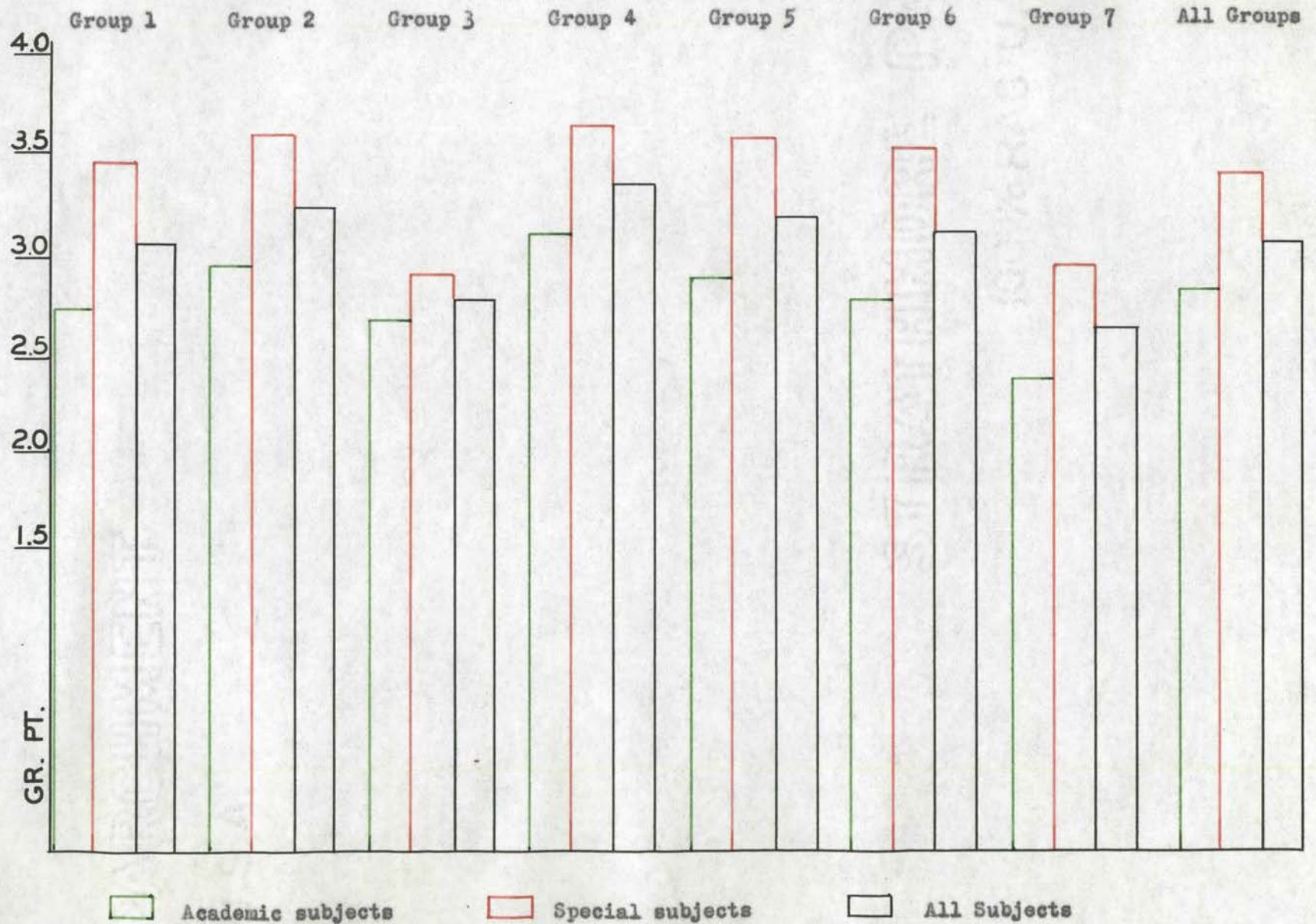
TABLE XXXVI

Comparison of grade point averages in academic and special subjects over three year period

Group	Academic Subjects				Special Subjects				Grade Pt. Average All Sub.
	1936-37	1937-38	1938-39	Average	1936-37	1937-38	1938-39	Average	
1	2.913	2.590	2.909	2.804	3.654	3.386	3.577	3.539	3.119
2	2.906	2.778	3.382	3.022	3.583	3.752	3.714	3.683	3.305
3	2.875	3.000	2.313	2.729	2.677	3.629	2.583	2.963	2.829
4	3.443	2.943	3.125	3.180	3.777	3.591	3.806	3.725	3.407
5	2.465	2.756	3.619	2.947	3.222	3.671	4.087	3.660	3.252
6	2.613	2.759	3.147	2.840	3.397	3.829	3.594	3.607	3.168
7	2.065	2.454	2.705	2.408	2.670	3.154	3.143	2.989	2.657
Totals	2.754	2.754	3.029	2.847	3.283	3.573	3.501	3.452	3.105

TABLE XXXVII

Comparison of grade point averages in academic and special subjects over three year period



## CONCLUSIONS

Keeping in mind that the expressed purpose of this thesis is limited to a comparison of scholastic achievements of elementary school groups during their seventh grade in Ponca City Junior High School, an interpretation of data collected and analyzed establishes three definite conclusions, which are summarized herein.

Elementary school groups in the Ponca City system do not show sufficient differences in scholastic achievement over the three year period to conclude that any appreciable differences exist. However, over yearly periods of the study, certain significant differences are conclusive. Group 4 ranks consistently higher than all other groups during 1936-37. Group 5 ranks consistently higher than all other groups during 1938-39. Group 7 ranks lowest during 1936-37 and 1937-38, while group 3 holds the lowest rank for 1938-39.

Elementary school groups in the Ponca City system rank higher in grade point averages than the elementary school groups from other towns.

All elementary school groups rank higher in scholastic achievement in special subjects than in academic subjects.



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