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An Inquiry into the Effect of Art Enrollment on Grades in Other Subjects

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AN INQUIRY INTO THE EFFECT OF ART ENROLLMENT
ON GRADES IN OTHER SUBJECTS

A Thesis
Presented to
the Graduate Faculty
Central Washington State College

In Partial Fulfillment
of the Requirements of the Degree
Master of Education

by
Roy B. Schonewill
August 1964

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APPROVED FOR THE GRADUATE FACULTY

Louis A. Kollmeyer, COMMITTEE CHAIRMAN

Dean Stinson

Edward C. Haines

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CHAPTER I

THE STUDY AND THE METHOD

Many hypotheses have been made concerning the importance of art instruction in the public schools. The reasoning usually centers on the development of aesthetic judgment, increase in perception, improvement of the visual sense, and other aesthetic considerations. There has been very little study made of this problem and almost none on the relationship of the study of art to academic success in terms of grades in other subject matter areas.

I. THE PURPOSE OF THE STUDY

The suggestion for the study. It was the purpose of this study to measure the number of instances where enrollment in art may have had an influence on the success in the other subjects the students were taking while enrolled in art classes. The suggestion for the study came from the fact that several parents of various students had requested that the students be placed in an art class in the ninth grade where art normally was an elective. They had observed that in the semesters in which the students had taken art as a requirement in both the seventh and eighth grades the students' grades in other subjects had been higher in the semester that they were enrolled in art than in the semester when they were not enrolled in art. The primary reason for

the study was to determine, if possible, how many of the total student body were affected in this way and to determine, if possible, what other factors may have played a part.

Importance of the study. The importance of the study of art usually is not considered in other connections than that of the relationship of art to the individual and his development of understandings related to the subject matter in the study of art. It was felt important to find, if any, what contributions a study of art may have to make in other subjects the students may be taking at the same time that they are enrolled in art.

Limitations to the conclusions. It was apparent at the beginning of the study that indications might be found but not definite conclusions, because the nature of the study was such that it could not measure other factors such as the personality differences of the various teachers in art and those of the teachers who had the students in the alternate semesters in science, as well as other factors in the daily lives of the students. The subject of art could be considered as only one possible factor of several which limited any data that was found from being conclusive.

II. THE METHOD OF THE STUDY

The method of collecting data. The report cards for

the entire student body for one complete year in one Seattle Junior High School¹ were used as the material for collecting the data for the study. Each student had been issued two cards, one for each semester. Each semester card had recorded three grades for each subject. One grade was given for each quarter and one which was the average of the two. Only the two quarter grades were used in the study because the average grade tended to equalize and to give the benefit of the difference when the grades for the two quarters were not equal, thereby reducing in many instances the actual differential in grades. The fact that students maintained the same schedule of studies, except for the alternating of science for one semester and art for another semester, made it possible to make comparisons of grades in other subjects while enrolled in art with grades in other subjects when enrolled in science. In the count of the grade points, the usual assigning of 4 points for an A, 3 points for a B, 2 points for a C, 1 point for a D, and 0 points for an E was made to facilitate the handling of figures. Grade points were used rather than grade point averages. When looking at the numbers used in the frequency tables in the appendix, for example, the number 4 would refer to total grade points difference between semesters but would not indicate the

¹The Jane Addams Junior High School, Seattle, Washington

grade point average. The number 4 would indicate, however, that the student's grades had risen or lowered by one point in four subjects, two points in two subjects, or four points in one subject.

The data used. Valid grade cards were considered those which were complete for one year and maintained the same program of studies for one year except for the alternation of art and science. All valid cards for the study were then examined for the total grade points earned for each of the two semesters for each student in the school. Grades for art and for science were not included in the totals. Only those grades which were earned for other subjects which the students took in common both during enrollment in art and enrollment in science were totalled. The art and science grades were not included because the purpose of the study was to find what effect art enrollment may have had on the grades earned in other subjects. The science grade was not included because it too was of one semester's duration and corollary to art could be seen as possibly having an effect on grades in other subjects in the semester when science was part of the same program of studies. If it were to be considered valid to say that art enrollment had an effect on grades in other subjects it would be just as valid to say the same for science. The study, however, was limited

to finding how many students had better grades in other subjects or lower grades while enrolled in art as compared with the semester when they were not enrolled in art.

CHAPTER II

THE STUDY AND THE DATA

The primary study. The study included only the grades of those seventh and eighth graders whose records were complete for one entire year. There was a large number of seventh graders who were enrolled in a foreign language but not in art. These were not included in the study. The study included the grades of 346 seventh graders, 458 eighth graders, and 432 ninth graders, or a total of 1,236 students.

The secondary study. A count was made of the grades of the ninth graders whose programs remained constant throughout the year to determine how much of a tendency there was for grades to rise or lower in the two semesters. It was thought that some comparison of trends in the ninth grade in this respect may throw some light on the findings from the seventh and eighth grade studies. If, for example, it was found to be a tendency for ninth graders to earn lower grades in the second semester, this factor should be considered in reviewing and appraising the meaning of grade differentials in the two semesters for the seventh and eighth graders if there were any differences. Such comparisons were based on the assumption that any such tendency found would be comparable to tendencies in the seventh and eighth grades as well. Comparisons of this kind

were to be considered of interest, possibly illuminating, but not conclusive evidence.

The data concerning the seventh graders. Table I on page 8 shows the number of students whose grades went up or down in both semesters while enrolled in art together with the percentages of the total number of students for each grade in a given semester. In the first semester with the same group of seventh graders there were a total of 171 students of which 61 (35.7%) were lower in their grades in other subjects while enrolled in art and 91 (53.2%) whose grades were higher in their grades in other subjects when enrolled in art. Nineteen students or 11.1% of the students maintained the same grades when enrolled in art as when enrolled in science. There were 175 seventh graders enrolled in art during the second semester. Of these 72 (41.1%) earned lower grades in their other subjects while enrolled in art. Seventy-nine (45.1%) earned higher grades while enrolled in art. Twenty-four (13.8%) maintained the same grades for both semesters. Of the total number of students for the total year in the seventh grade an average of 49.15% of the students earned higher grades in other subjects while enrolled in art, 38.4% earned lower grades in their other subjects while enrolled in art, and 12.45% maintained the same grades for the two semesters. In comparing grade

TABLE I
 VARIANCE IN GRADES IN RISE OR DROP BY SEMESTERS
 FOR SEVENTH AND EIGHTH GRADERS
 WHILE ENROLLED IN ART

Grade	Semester	No. Pupils	No. Down	% Down	No. Up	% Up	No. Same	% Same
Seventh	First	171	61	35.7	91	53.2	19	11.1
Seventh	Second	175	72	41.1	79	45.1	24	13.8
Eighth	First	224	95	42.4	106	47.3	23	10.3
Eighth	Second	234	83	35.5	121	51.7	30	12.8

Note: 198 ninth graders earned lower grades second semester or 45.8%
 182 ninth graders earned higher grades second semester or 42.1%
 52 ninth graders maintained the same grades both semesters or 12.1%

changes by semester of the seventh graders with the ninth graders it was found that 45.1% of the seventh graders earned higher grades while enrolled in art in the second semester as compared to 42.1% of the ninth graders whose grades rose during the same semester. In comparing grade changes by semester of the seventh graders with the ninth graders it was found that 41.1% of the seventh graders earned lower grades in other subjects while enrolled in art the second semester while 45.8% of the ninth graders earned lower grades during the same semester. Of the seventh graders 13.8% maintained the same grades for both semesters as compared with 12.1% of the ninth graders.

The data concerning the eighth graders. In the first semester there were 224 eighth graders enrolled in art of which 95 (42.4%) earned lower grades in other subjects while enrolled in art and 106 (47.3%) whose grades were higher while enrolled in art. Twenty-three (10.3%) of these maintained the same grades in their other subjects for both semesters. In the second semester there were 234 eighth graders enrolled in art of which 83 (35.5%) were lower in their grades in other subjects while enrolled in art and 121 (51.7%) whose grades were higher in other subjects while enrolled in art. Thirty (12.8%) maintained the same grades in other subjects for both semesters. In comparing grade

changes by semester of the eighth graders with the ninth graders it was found that 51.7% of the eighth graders earned higher grades in the second semester while enrolled in art while 42.1% of the ninth graders earned higher grades during the same semester. In comparing grade changes by semester of the eighth graders with the ninth graders it was found that 35.5% of the eighth graders earned lower grades in other subjects while enrolled in art while 45.8% of the ninth graders earned lower grades during the same semester.

Comparison of seventh and eighth graders. More eighth graders earned better grades in other subjects while enrolled in art the second semester than did in the first semester. Also, more eighth graders earned higher grades in that semester than did the seventh graders. More seventh graders than eighth graders earned higher grades in other subjects while enrolled in art in the first semester.

Comparison of seventh and eighth graders with ninth graders. In both semesters and for both seventh and eighth graders more students earned higher grades during the second semester when they were enrolled in art than ninth graders earned in the second semester. Of the ninth graders, 42.1% earned higher grades during the second semester compared to 45.8% who earned higher grades in the first semester. Differences between seventh and ninth graders, and between

eighth and ninth graders by semesters are graphed on pages 13 and 14 of this paper.

The mean points differences. Although the highest number of points rise in grades of the two semesters for an individual student was 16 points while enrolled in art, the mean number of points difference for seventh graders ranged from 2.9 points drop while enrolled in art in one semester to a mean 4.36 points drop in the alternate semester. The mean points difference in rise in grades for seventh graders while enrolled in art was 3.48 points and 3.19 points for the respective semesters.

The mean points rise in grades for eighth graders while enrolled in art the second semester was 3.12 points and 3.0 points while enrolled in art the first semester. The mean number of points dropped in the second semester for eighth graders was 3.15 points and in the first semester 3.13 points. The ninth graders dropped a mean 3.24 points in the second semester and rose a mean 3.34 points in the second semester.

The differences in the mean number of points rise or drop in grades was fairly close in all grades. The main difference found was in the number of students whose grades rose or dropped while enrolled in art. More eighth graders earned higher grades in other subjects than did seventh

graders, although more seventh graders earned higher grades than lower grades in other subjects while enrolled in art. There was no instance when either seventh or eighth graders were less in number in earning higher grades in other subjects while enrolled in art than the number earning lower grades in the same circumstances. In every instance the number of students earning higher grades in other subjects while enrolled in art was greater than the number which was lower.

Percentages

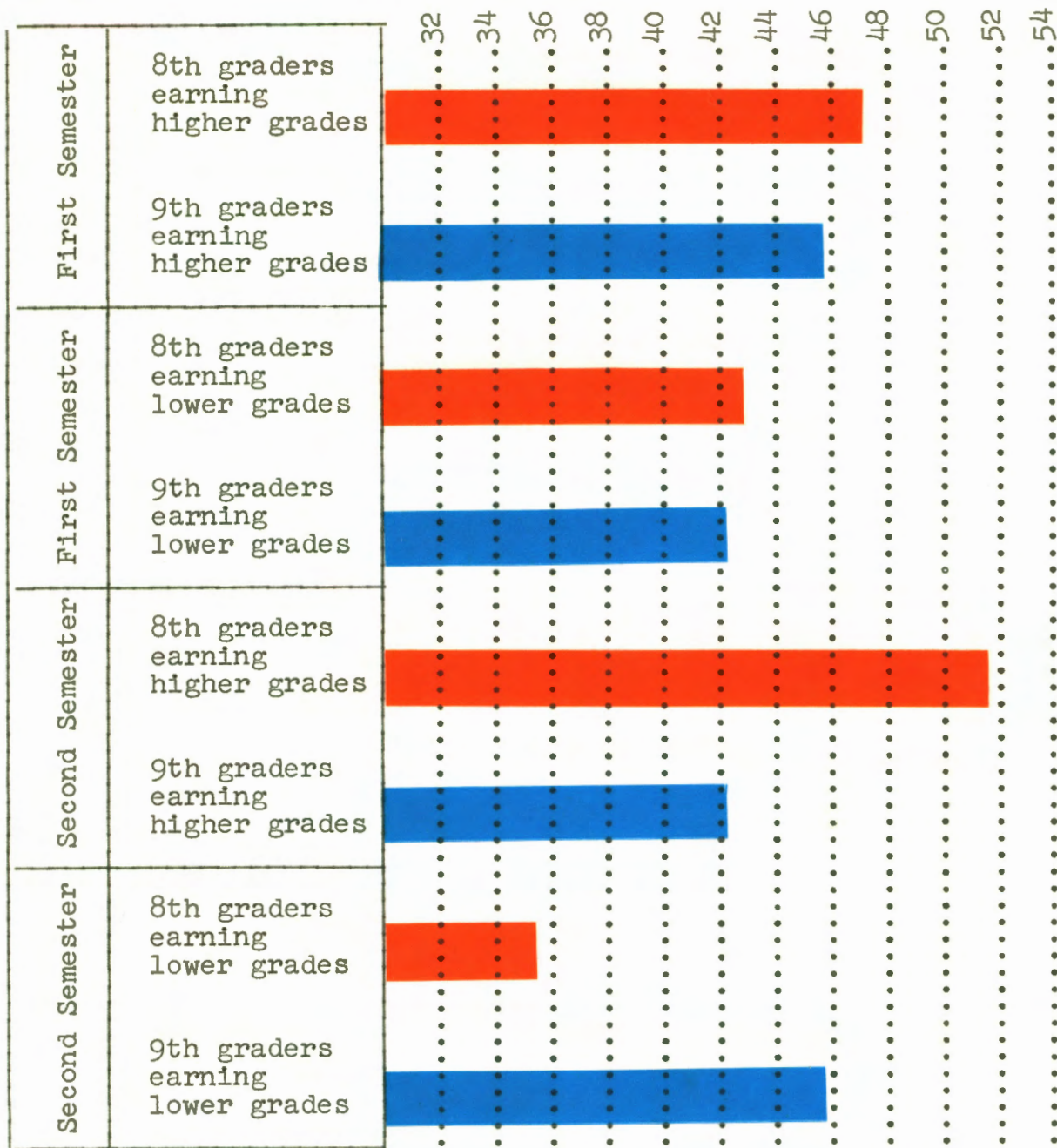


FIGURE 1

COMPARISONS BY PERCENTAGES OF NINTH GRADERS GRADES BY SEMESTER WITH EIGHTH GRADERS GRADES WHILE ENROLLED IN ART THE SAME SEMESTER

Percentages

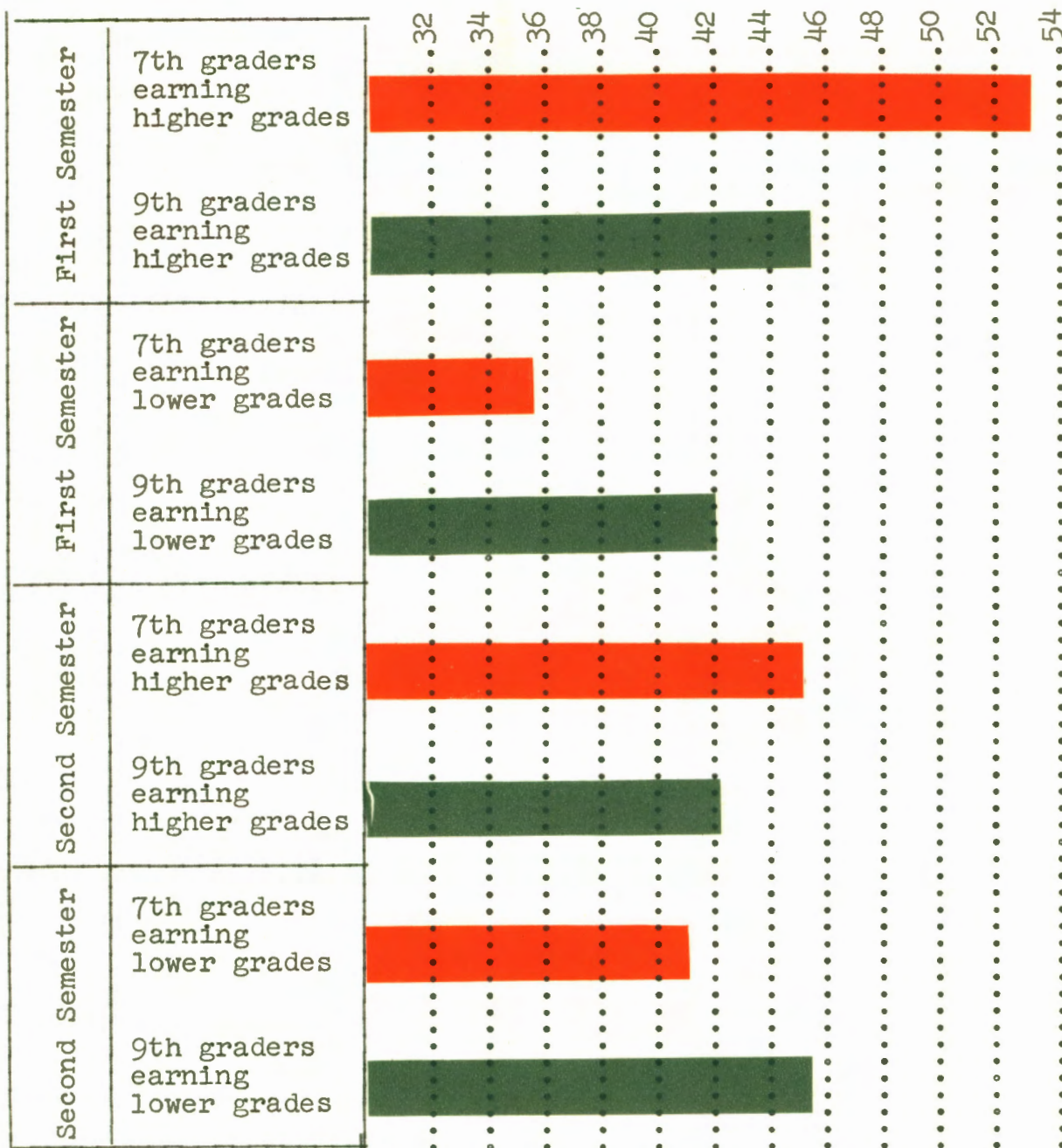


FIGURE 2

COMPARISONS BY PERCENTAGES OF NINTH GRADERS GRADES BY SEMESTER WITH SEVENTH GRADERS GRADES WHILE ENROLLED IN ART THE SAME SEMESTER

CHAPTER III

SUMMARY AND CONCLUSIONS

Certain conclusions as to the rise or fall of grades while enrolled in art can be made as to the fact of such existing evidence. Nothing conclusive can be stated regarding the reasons or causes for the rise or drop in grades. This study did not measure other factors which may have had an influence in producing the evidence found.

I. SUMMARY

Drop in grades in the second semester. When comparing the grades of both seventh and eighth graders with ninth graders in the tendency to drop in grades during the second semester it was found that when seventh and eighth graders were enrolled in art during the second semester, fewer students dropped in grades than did ninth graders. Seventh graders dropped by a difference of 4.7% less than did ninth graders. Eighth graders dropped by a difference of 10.3% less than did ninth graders. It was also found that seventh graders whose grades rose during the second semester while enrolled in art rose by a difference of 3% over the ninth graders and the eighth graders rose by a difference of 9.6% over the ninth graders.

Grades remaining the same. The percentage of seventh

graders whose grades remained the same was 13.8% of those enrolled in art the first semester and 11.1% of those enrolled in art during the second semester. The average number of seventh graders whose grades remained the same was 12.45% of the total for the year.

The percentage of eighth graders whose grades remained the same was 10.3% for the first semester while enrolled in art and 12.8% of those enrolled in art the second semester for an average for the year of all eighth graders of 11.55%.

Differences in grades while enrolled in art. In the seventh grade more students earned higher grades in other subjects while enrolled in art than earned lower grades. In the first semester 53.2% of the seventh graders enrolled in art earned higher grades in other subjects and 35.7% earned lower grades in other subjects. In the second semester 45.1% of the seventh graders enrolled in art earned higher grades while 41.1% earned lower grades.

During the first semester 47.3% of the eighth graders enrolled in art earned higher grades in other subjects while 42.4% earned lower grades. In the second semester 51.7% of the eighth graders enrolled in art earned higher grades in other subjects while 35.5% earned lower grades.

II. CONCLUSIONS

It may be stated that a larger number of students earned higher grades in other subjects in the semester in which they were enrolled in art in both the seventh and eighth grades than in the semesters when they were not enrolled in art. No conclusive evidence was gained from the study as to reasons for the differences in the grades. Factors which were not measured by the study may have had some influence, a great deal of influence, or possibly no influence on the differences in grades. Factors which could be hypothesized as having influence might be: (1) the personality differences between the art teachers and the science teachers, (2) the differences in the atmosphere of the classrooms as a result of the differing kinds of work and study in the two subjects, and (3) the differences in teaching methods by the different teachers in degrees of permissiveness and authoritarianism. There may be factors which no one could foresee or predict.

Further studies. Before any other studies were made to measure other possible factors in this problem, more studies should possibly be made from the same kind of data as measured in this study in different schools in the same city, schools in other cities, and schools in more rural areas. If the results were sufficiently similar to this

study or showed any tendency to be consistent with this study it would then seem feasible to conduct expanded studies to find what factors may have contributed to the results as found in this and subsequent similar studies.

APPENDIX

TABLE II

THE FREQUENCY OF VARIOUS GRADE POINTS RISE IN GRADES IN
OTHER SUBJECTS FOR INDIVIDUAL SEVENTH GRADERS
IN SEMESTER ONE WHILE ENROLLED IN ART

<u>No. Points</u>	<u>No. Students</u>
11	2
10	1
8	2
7	4
6	4
5	10
4	16
3	18
2	15
1	<u>19</u>

Total 91
Mean points raised = 3.48

TABLE III

THE FREQUENCY OF VARIOUS GRADE POINTS RISE IN GRADES IN
OTHER SUBJECTS FOR INDIVIDUAL SEVENTH GRADERS
IN SEMESTER TWO WHILE ENROLLED IN ART

<u>No. Points</u>	<u>No. Students</u>
13	1
9	3
8	2
7	3
6	4
5	7
4	11
3	6
2	22
1	<u>18</u>

Total 79
Mean points raised = 3.29

TABLE IV

THE FREQUENCY OF VARIOUS GRADE POINTS DROPPED IN GRADES IN
OTHER SUBJECTS FOR INDIVIDUAL SEVENTH GRADERS
IN SEMESTER ONE WHILE ENROLLED IN ART

<u>No. Points</u>	<u>No. Students</u>
8	1
7	2
6	4
5	3
4	7
3	11
2	22
1	<u>11</u>
Total	63
	Mean points dropped = 2.9

TABLE V

THE FREQUENCY OF VARIOUS GRADE POINTS DROPPED IN GRADES IN
OTHER SUBJECTS FOR INDIVIDUAL SEVENTH GRADERS
IN SEMESTER TWO WHILE ENROLLED IN ART

<u>No. Points</u>	<u>No. Students</u>
13	2
12	1
10	1
9	3
8	3
7	3
6	7
5	13
4	9
3	7
2	11
1	<u>12</u>
Total	72
	Mean points dropped = 4.36

TABLE VI

THE FREQUENCY OF VARIOUS GRADE POINTS RISE IN GRADES IN
OTHER SUBJECTS FOR INDIVIDUAL EIGHTH GRADERS
IN SEMESTER ONE WHILE ENROLLED IN ART

<u>No. Points</u>	<u>No. Students</u>
10	1
8	2
6	6
5	12
4	19
3	16
2	22
1	<u>29</u>
Total	106
Mean points raised = 3.0	

TABLE VII

THE FREQUENCY OF VARIOUS GRADE POINTS RISE IN GRADES IN
OTHER SUBJECTS FOR INDIVIDUAL EIGHTH GRADERS
IN SEMESTER TWO WHILE ENROLLED IN ART

<u>No. Points</u>	<u>No. Students</u>
16	1
8	2
7	4
6	10
5	11
4	14
3	27
2	22
1	<u>30</u>
Total	121
Mean points raised = 3.12	

TABLE VIII

THE FREQUENCY OF VARIOUS GRADE POINTS DROPPED IN GRADES IN
OTHER SUBJECTS FOR INDIVIDUAL EIGHTH GRADERS
IN SEMESTER ONE WHILE ENROLLED IN ART

<u>No. Points</u>	<u>No. Students</u>
9	2
7	6
6	9
5	10
4	11
3	10
2	25
1	<u>22</u>
Total	95
Mean points dropped = 3.13	

TABLE IX

THE FREQUENCY OF VARIOUS GRADE POINTS DROPPED IN GRADES IN
OTHER SUBJECTS FOR INDIVIDUAL EIGHTH GRADERS
IN SEMESTER TWO WHILE ENROLLED IN ART

<u>No. Points</u>	<u>No. Students</u>
9	2
7	3
6	6
5	9
4	11
3	15
2	15
1	<u>22</u>
Total	83
Mean points dropped = 3.15	

TABLE X

THE FREQUENCY OF VARIOUS GRADE POINTS RISE
FOR INDIVIDUAL NINTH GRADERS IN
SEMESTER TWO

<u>No. Points</u>	<u>No. Students</u>
12	1
9	4
8	5
7	8
6	13
5	13
4	17
3	31
2	45
1	<u>45</u>
Total	182
Mean points raised = 3.24	

TABLE XI

THE FREQUENCY OF VARIOUS GRADE POINTS DROPPED FOR
INDIVIDUAL NINTH GRADERS IN SEMESTER TWO

<u>No. Points</u>	<u>No. Students</u>
13	1
9	6
8	2
7	8
6	13
5	19
4	23
3	33
2	43
1	<u>50</u>
Total	192
Mean points dropped = 3.34	