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A Study of Some Characteristics of Grade Point Averages of Freshmen Men in a Residence Hall

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A STUDY OF SOME CHARACTERISTICS OF GRADE POINT AVERAGES OF FRESHMEN MEN IN A RESIDENCE HALL

(TITLE)

BY

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CHAPTER I

This study was a survey of the grade point averages and American College Testing Program test scores of all freshmen men who lived in Thomas Hall, Eastern Illinois University, for the Fall, Winter, and Spring Quarters of the academic year 1963-64.

Statement of the problem. The purpose of this study was: (1) to determine the mean score or grade point average of the 148 men involved in the study, (2) to determine the mean score for the ACT composite and each of its four sub-tests for these subjects, (3) to compare each of the variables involved with each other variable to find any correlations that might exist, and (4) to determine some possible indicator on the ACT that might benefit in counseling incoming freshmen before they have received any college grades.

Importance of the study. With more and more people seeking higher education each year, the requirements for entrance are becoming much more rigid. Almost all colleges and universities now require each entering student to take an entrance examination before he is admitted. However, the validity of some of these tests is sometimes questioned. Is it possible that these tests are worthless as far as predicting

college success? Or can these scores obtained from these tests actually be used to help entering students see their chances of college success?

To the counselor in the residence hall it would be of considerable benefit if there were some way through certain criteria in an entrance test that would give a good indication of an entering student's success in college. Since freshmen come to the university with only their high school records and ACT scores, the staff in a residence hall could help the student more if a predictor of college grades could be found in the test alone.

Procedure of the study. The writer accumulated the grade point averages and ACT scores of the 148 freshmen living in the residence hall for the Fall, Winter, and Spring quarters of the academic year 1963-64. This data was then arranged in order of percentile rank of the ACT composite, all like percentages being placed in a group. Each individual in a percentile grouping was then arranged according to his grade point average for the Fall quarter 1963, lowest to highest. The percentiles for the composite and the subtests were then changed to the standard scores. Thus nine variables could then be keyed out on IBM cards. These cards were then checked for error and then computed to find the mean of each variable, standard error of the mean of each variable, the standard deviation, and the coefficient of correlation of each variable

against each other variable. After the computations had been made the data was analyzed to determine if there were any significant findings.

Limitations of the study. Certain limitations must be noted concerning this study. Factors which may affect the study are:

1. The survey was limited to 148 freshmen living in Thomas Hall.
2. The inclusion of those freshmen who lived in the hall all three quarters since it would be impossible to use the computer with accuracy unless data were used in each column of variables.
3. The grade point averages will be higher since the drop-outs and failures for the fall and winter quarters are not included.
4. The study habits and activities of the individual students would have an effect on the outcomes.
5. The administration of the test and the attitude of the individual taking the test would be another important factor.
6. The lapse of time since the administration of the test would be a factor.
7. The different subjects and curriculum of each of the individuals would relate to the outcome.

DEFINITION OF TERMS

Grade point average. This average is figured by dividing the number of quarter hours taken into the number of credit hours earned. Each quarter hour has a credit value of A=4, B=3, C=2, D=1, and F=0.

ACT test. A test developed by the American College Testing Program for college placement. It consists of four sub-tests--English, Mathematics, Social Studies, and Natural Sciences. This test is a requirement for admission to Eastern Illinois University.

Mean. This arithmetic average is found by dividing the sum of all the scores or measures by their number.

Correlation. The statistical relationship between two (or more) variables.

Standard error of the mean. The standard deviation of the population divided by the square root of the number of cases in the sample.

Standard deviation. The square root of the average of the squares of a set of deviations about an arithmetic mean.

Variable. A symbol that represents a like group of data.

CHAPTER II

REVIEW OF RELATED RESEARCH

There is continued need for research that will lead to more effective test result interpretation. While research on all aspects of testing is needed, in the reviewer's opinion, high priority should be given to research that will provide greater understanding of the relationship between tests that may be used for entrance and placement of entering college freshmen. The research should deal with the purpose of finding an indication of college success.

Of students who had taken the Iowa Test of Educational Development in the senior year in high school, Scannel noted year by year increase in accuracy of prediction of college success. It was felt that tests in the elementary school could even be used as a predictor of college success.[1]

An exception to the usual finding that tests with the most "educational content" predict college success best was reported by Plant and Lynd. The W.A.I.S. as a predictor had a .58 correlation with freshmen grades.[2] Wall and others in

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[1]Dale P. Scannel, "Prediction of College Success From Elementary and Secondary School Performance," Journal of Educational Psychology, 51, June 1960, 130-134.

[2]Plant and Lynd, "Validity Study and a College Freshmen Norm Group for W.A.I.S.," The Personnel and Guidance Journal, 37, April 1959, 578-580.

their study with the W.A.I.S. and prediction of college grades found a relationship between the two variables mentioned although it was not high.[3]

College grades and entrance tests have been a recent research topic. Studies by McCormick and Asher, Doleys and Renzaglia, and Spaulding all report prediction of freshmen grades from poor relationship to high relationship.

The correlation between grades and the SCAT test was found to be only .386 in a study by McCormick and Asher.[4]

Using the SAT test against college grades Doleys and Renzaglia found the SAT a better predictor of college grades than personal estimates.[5]

Although they gave some degree of prediction of college success, Spaulding found adjusted high school grades a better predictor of college grade point than achievement tests.[6]

Most often a random sampling is used in experiments

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[3] Harvey W. Wall, Edmond Marks, Donald H. Ford, and Martin L. Zeigler, "Estimates of the Concurrent Validity of the W.A.I.S. and Normative Distribution for College Freshmen," The Personnel and Guidance Journal, XL (April, 1962), 717-722.

[4] James H. McCormick and William Asher, "Aspect of the High School Record Related to the First Semester College Grade Average," The Personnel and Guidance Journal, XLII (March, 1964), 699-703.

[5] Earnest J. Doleys and Guy A. Renzaglis, "Accuracy of Student Prediction of College Grades," The Personnel and Guidance Journal, XLI (February, 1963), 528-530.

[6] Edward Spaulding, "High School Grades and Achievement Tests," Journal of Educational Psychology, 43, (February, 1959), 32.

concerning entrance tests and grade point averages, however, Sander selected a residence hall to study the relationship of ACT test scores to first semester grade point average to find if achievement of students is improved through advisement concerning ACT test scores. Although no actual data was observed, it was believed that there was improvement in the students who were advised.[7]

A study comparing ACT test scores of entering freshmen at the five state schools and the University of Illinois by Eells attempted to find out if the ACT could be used as an entrance test for all the schools in Illinois. The relationship between grade point averages and ACT scores are found for Eastern Illinois University. The correlation between first quarter grades and ACT composite score was found to be .43.[8]

Continued study involving grade point averages and entrance tests is needed. These studies that have been noted indicate that there is much more research that needs to be done before complete and accurate predictions of college success can be made.

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[7] Daryl L. Sander, "Experimental Educational Advising in a Men's Residence Hall," The Personnel and Guidance Journal, XLII (April, 1964), 787-790.

[8] Kenneth Esells, How Will the ACT Tests Serve Illinois Needs?, A Report of Research on Freshmen Testing of the Illinois Joint Council on Higher Education, August, 1962.

CHAPTER III

FINDINGS OF THE STUDY

This chapter contains the information gathered and computed from the records in the Dean of Men's office. The investigator through this study planned to present a comparison of the ACT test scores and grade point averages of all freshmen men who lived in Thomas Hall, Eastern Illinois University, for the Fall, Winter, and Spring quarters of the academic year 1963-64.

In order to present a complete and detailed view of these comparisons, several tables and appendices have been prepared. From the data obtained the following findings were noted:

ACT composite and sub-tests and grade point averages of all subjects in the survey. The average or mean standard score for this group of subjects was slightly above the norm at 52 percent or a standard score of 20.63 compared to the national norm of 20.03. The grade point average of the subjects were higher during the winter quarter and lower during the fall quarter. Ninety-two percent of those ranking in the standard score of 24 and up made a 2.00 or above for the fall quarter. Eighty-six percent had an average of 2.00 or above for all three quarters. Further data can be acquired from Appendix A.

Data from the computations for the mean, standard error of the mean, standard deviation, and correlation coefficients. The correlation between the quarter grades and the cumulative grade point average denotes a high correlation or relationship. However, the correlations between sub-tests are lower in this study than in the national norms. The composite of the ACT correlates highest with the Natural Science reading test. The significance of difference of the mean of each quarter grade point average with the cumulative grade point average was not significant at the .05 level using the t table for critical ratio. The significant of difference of the mean of each sub-test with the composite of the ACT was not significant at the .05 level by the t ratio. The significance of difference of the standard deviations of each quarter grade point average was not significant at the .05 level when tested by the t ratio. A chart for the interpretations of correlations will make interpretations more meaningful. The table is as follows:

r = correlation

an r from .00 to /20 denotes indifference or negligible relationship;
an r from .20 to .40 denotes low correlation, present but slight;
an r from .40 to .70 denotes substantial or marked relationship;
an r from .70 to 1.0 denotes high to very high relationship;[9]

From the chart presented it can be seen that all the correlations obtained are related. Appendix B will give other data that

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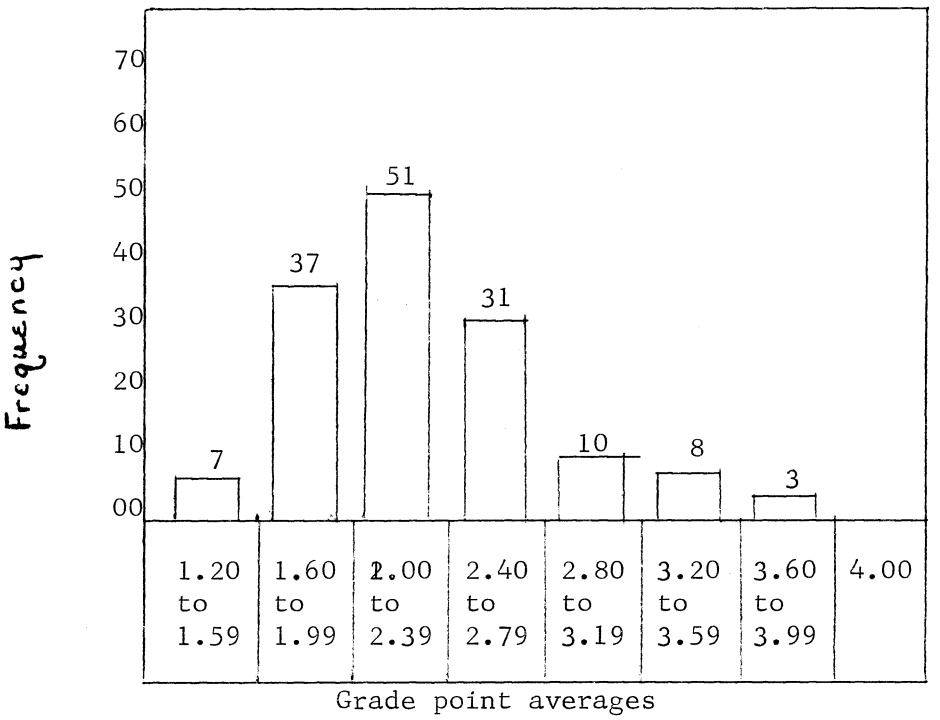
[9] Henry E. Garrett, Statistic in Education and Psychology, (New York: Longmans, Green and Co., Inc., 1953), p. 173.

can be used for interpretation of scores.

The distribution of scores. One-hundred and four of the 148 or 70 percent of the subjects in the study made a 2.00 or above grade point average for the academic year 1963-64. The scores closest to the mean occur most frequently. More scores deviate from the mean further above the mean than below the mean. The cumulative grade point average is the mean grade point. Table I illustrates the frequency of scores in the different grade point average groupings.

TABLE I

DISTRIBUTION OF SCORES



The number of scores in the different percentile ranks and the number of each in the different grade point groupings. It was noted that those students with composite ACT scores from 00-40 percentile were lower in grades than those above the 40 percentile. In fact, of those in the 40 percentile or less on the composite only 2 percent have a chance of making better than a 2.80. And as the scores become more scattered the percentile rank is higher. The scores in the 00-40 percentile cluster between 1.60 and 2.40 while at the 40-100 percentile the scores are most frequent between the 2.00 and 2.80 grade point averages. The following table will add meaning to the data collected.

TABLE II

NUMBER OF SCORES IN THE DIFFERENT PERCENTILE RANKS AND THE NUMBER OF EACH IN DIFFERENT GRADE POINT GROUPINGS

Percentiles	1.20 to 1.59	1.60 to 1.99	2.00 to 2.39	2.40 to 2.79	2.80 to 3.19	3.20 to 3.59	3.60 to 4.00	
80 - 100	0	4	6	7	1	2	3	23
60 - 80	1	2	8	10	5	2	0	28
40 - 60	0	8	13	9	4	3	0	37
20 - 40	3	13	14	3	0	1	0	34
00 - 20	3	10	11	2	0	0	0	26
Totals	7	37	52	31	10	8	3	148

Grade point averages

A percentage of scores in the different grade point groupings for each percentile. A person who scored in the 20 percentile or below has a 50-50 chance of making a 2.00 average for a full academic year. A greater percentage of students in the 60-80 percentile made a 2.00 or above. From the percentile rank on the composite ACT it is possible to predict from the results obtained in this study the chances a student will have of making a particular grade point average. Table III provides the percents found.

TABLE III

PERCENTILE OF SCORES IN THE DIFFERENT GRADE POINT GROUPINGS FOR EACH PERCENTILE

Percentiles	1.20 to 1.59	1.60 to 1.99	2.00 to 2.39	2.40 to 2.79	2.80 to 3.19	3.20 to 3.59	3.60 to 4.00
80 - 100	0%	17%	26%	31%	4%	9%	13%
60 - 80	4%	7%	28%	36%	18%	7%	0%
40 - 60	0%	22%	35%	24%	11%	8%	0%
20 - 40	9%	38%	41%	9%	0%	3%	0%
00 - 20	11%	38%	42%	9%	0%	0%	0%

Grade point averages

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

This study was a survey of some of the characteristics of grade point averages of 148 freshmen men in a residence hall with regards to their ACT test scores and the possible correlations between these factors. The nine variables involved--ACT composite, English, Mathematics, Social Studies, and Natural Science along with the grade point average for fall, winter, and spring quarters and the cumulative grade point average--were computed for the mean of each variable, the standard error of the mean of each variable, the standard deviation, and the coefficient of correlation of each variable were made against each other.

From the findings of the study the following conclusions were drawn:

1. Correlations between the different grade point averages and the cumulative have a high relationship thus indicating a tendency for a person to maintain the grade point average which he received in his first quarter.
2. With the population or sample involved the mean grade point average was 2.29. The higher the grade point averages, the less people are able to maintain

a high ranking grade point average. The frequency clusters at the mean as might be expected.

3. The lower the percentile rank on the composite the less chance the student has of getting a high grade point average.
4. From the data presented it is possible to present a counselee figures that will indicate to him how students in the same percentile rank have done. This can benefit the residence hall staff in counseling freshmen in regards to academic success.
5. Although the correlations vary, it can be noted that there is a definite relationship between the ACT and grade point average.
6. One-half of those students in the 00-40 percentile have a chance to make a 2.00 average so it would be important to explain to them their chances according to this study.
7. Those students in the 60-100 percentile rank are more than likely to make their grades, all other factors equal.

RECOMMENDATIONS

1. It was recommended that this study be carried out not for just one residence hall, but for all freshmen on Eastern's campus.

2. It was recommended that local percentile norms be developed for Eastern Illinois University.
3. It was recommended that specific grades earned in English, Mathematics, be compared to the sub-tests for these subjects on the ACT.
4. It was recommended that information available be used in counseling entering freshmen as an indication of possible success at Eastern Illinois University.
5. It was recommended that high school grades, majors, and curriculum all be compared to the ACT test.
6. It was recommended that another study similar to this one be done and the results of it be compared to the results found in this study.

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APPENDIX A

This appendix includes all of the ACT test scores and the grade point averages of those freshmen men living in Thomas Hall (148) for the academic year 1963-64 at Eastern Illinois University. The ACT scores have been changed from percentiles to standard scores for convenience of computation. An explanation of abbreviations will help in the interpretation of the data included in the appendix.

COMP. - The composite score is the average of the four sub-tests of the ACT.

ENG. - English usage test.

MATH. - Mathematics usage test.

SOC. S. - Social studies test of reading.

N. SCI. - Natural Sciences reading test.

1st QGPA - First quarter grade point average.

2nd QGPA - Second quarter grade point average.

3rd QGPA - Third quarter grade point average.

AVGPA - Average or cumulative grade point average.

COMP.	1st QGPA	2nd QGPA	3rd QGPA	AVGPA	ENG.	MATH	SOC.S.	N. SCI.
12	1.09	2.07	2.38	2.19	07	09	13	16
12	2.31	1.76	1.77	1.92	07	19	13	08

(Appendix A)

COMP.	1st QGPA	2nd QGPA	3rd QGPA	AVGPA	ENG.	MATH	SOC. S.	N. SCI.
12	0.59	2.38	1.77	1.80	10	10	15	13
12	1.65	2.29	1.85	2.09	11	11	21	11
13	1.65	2.18	1.06	1.57	08	16	14	14
13	2.08	2.00	1.82	1.96	13	01	18	20
13	2.29	2.11	2.12	2.03	10	10	16	14
14	1.65	1.58	2.06	1.91	16	07	15	15
14	2.76	3.05	2.15	2.70	13	14	16	12
15	1.13	1.60	1.82	1.44	12	15	13	20
15	2.06	1.82	2.24	2.04	14	16	15	13
15	2.24	2.29	2.15	2.23	16	20	09	12
15	2.25	2.50	2.75	2.59	16	16	12	13
16	0.82	2.15	2.77	1.82	14	16	12	22
16	1.18	1.82	2.46	2.00	09	15	20	21
16	1.29	3.00	2.08	2.05	14	17	15	19
16	1.35	2.07	1.46	1.77	18	13	17	14
16	1.41	2.29	1.23	1.74	14	13	20	17
16	1.47	2.80	2.06	2.29	23	11	14	15
16	1.54	1.35	2.06	1.90	10	17	12	25
16	1.77	2.38	0.92	1.67	13	21	08	21
16	1.82	1.88	1.85	1.85	09	25	13	20
16	2.00	2.52	2.46	2.13	16	14	21	13
16	2.08	1.88	2.25	2.07	15	20	13	16
16	2.12	1.58	0.85	1.55	14	23	16	09
16	2.24	1.64	1.77	2.07	19	18	17	12

(Appendix A)

COMP.	1st QGPA	2nd QGPA	3rd QGPA	AVGPA	ENG.	MATH	SOC. S.	N. SCI.
17	0.85	2.07	2.08	1.84	16	19	15	17
17	1.27	1.46	1.60	1.40	16	19	16	18
17	1.59	1.82	2.24	2.04	15	17	17	20
17	1.65	1.33	2.24	1.86	17	22	16	11
17	1.69	2.38	2.86	2.18	14	22	10	20
17	1,76	1.58	1.35	1.65	19	13	18	16
17	1.76	2.05	1.82	1.86	15	24	16	14
17	1.77	1.92	1.23	1.64	17	12	23	16
17	1.93	2.29	2.20	2.19	15	17	09	23
17	2.33	2.29	2.00	2.37	17	13	15	22
17	2.35	1.88	2.82	2.35	20	17	13	17
18	1.06	2.00	1.88	1.81	20	17	18	15
18	1.35	1.64	2.92	1.92	15	20	16	21
18	1.53	2.15	1.77	1.79	15	26	16	15
18	1.53	1.82	1.76	1.71	17	19	16	21
18	1.59	1.25	1.50	1.45	17	24	14	17
18	1.77	1.64	2.38	1.95	10	10	31	20
18	1.82	1.35	1.54	1.57	19	19	21	14
18	1.82	2.38	2.00	2.04	16	21	13	20
18	1.82	2.11	1.77	1.91	14	24	15	17
18	1.85	2.38	2.53	2.28	14	19	17	22
18	1.88	0.88	1.88	1.96	17	15	20	17
18	2.00	2.52	2.12	2.22	19	19	15	20

(Appendix A)

COMP.	1st QGPA	2nd QGPA	3rd QGPA	AVGPA	ENG.	MATH	SOC. S.	N. SCI.
18	2.00	2.38	1.67	2.00	16	11	26	20
18	2.82	2.82	2.46	2.76	17	20	20	14
19	1.88	2.18	2.08	2.20	14	19	25	16
19	2.06	1.64	2.12	1.94	22	15	21	20
19	2.08	1.64	1.82	1.95	14	15	20	24
19	2.12	2.11	1.82	2.02	18	21	17	19
19	2.15	2.15	2.15	2.15	19	19	18	19
19	2.35	2.35	3.00	2.57	19	19	20	21
19	2.53	2.52	2.05	2.35	15	26	14	19
19	3.18	2.82	2.35	2.78	17	21	18	17
19	3.38	2.94	3.41	3.20	15	19	20	21
20	1.29	1.76	1.22	1.41	19	22	17	21
20	1.41	2.07	3.20	2.15	15	24	19	22
20	1.65	2.05	1.77	1.91	17	13	24	23
20	1.65	1.29	2.39	1.78	19	26	14	20
20	1.82	2.11	2.38	2.09	20	17	17	23
20	2.00	2.52	2.00	2.05	20	22	17	22
20	2.15	2.52	1.85	2.19	14	21	22	23
20	2.31	2.29	2.71	2.43	16	18	20	25
20	2.44	2.69	2.06	2.32	19	15	26	21
20	2.47	1.35	2.06	1.96	19	21	20	21
20	3.47	3.00	3.29	3.24	20	14	27	16

(Appendix A)

COMP.	1st QGPA	2nd QGPA	3rd QGPA	AVGPA	ENG.	MATH	SOC. S.	N. SCI.
21	1.35	1.64	2.06	1.91	18	17	25	21
21	1.35	2.23	2.24	1.96	22	23	15	22
21	1.65	2.52	2.29	2.16	17	26	20	21
21	1.72	1.50	2.69	2.07	18	20	23	21
21	2.00	2.05	2.46	2.27	22	23	21	19
21	2.12	1.25	1.82	1.76	19	21	23	21
21	2.47	2.93	2.56	2.63	17	20	25	22
21	2.76	3.23	3.76	3.25	18	20	23	22
21	2.76	3.47	2.47	2.90	22	16	24	21
21	2.94	2.28	3.06	2.76	22	24	16	24
21	3.00	2.76	3.06	2.96	22	21	20	21
21	3.41	2.64	2.76	2.94	14	27	22	20
21	3.47	3.29	3.18	3.31	23	29	16	16
22	1.35	2.11	2.69	2.23	23	23	18	24
22	1.41	2.38	2.38	2.21	17	25	22	23
22	1.85	2.76	2.76	2.51	20	26	17	24
22	2.00	2.52	2.15	2.22	14	26	25	22
22	2.12	2.76	2.47	2.45	16	26	22	24
22	2.29	2.76	3.29	2.76	20	17	28	20
22	2.35	2.29	2.35	2.33	18	20	25	23
22	2.35	1.50	1.76	1.88	23	22	18	24
22	2.53	3.00	2.76	2.75	19	19	27	23
22	2.59	2.05	2.29	2.31	22	22	17	24

(Appendix A)

COMP.	1st QGPA	2nd QGPA	3rd QGPA	AVGPA	ENG.	MATH	SOC. S.	N. SCI.
22	2.59	2.52	2.46	2.51	22	19	21	26
22	3.00	2.52	2.00	2.51	18	19	27m	21
23	1.82	2.11	1.41	1.78	17	23	21	28
23	1.82	2.52	1.82	2.23	23	25	19	23
23	1.88	2.52	3.06	2.49	22	23	23	23
23	2.12	2.35	2.53	2.33	20	22	26	23
23	2.32	2.29	2.76	2.45	24	23	22	23
23	2.35	2.05	2.06	2.14	17	23	21	29
23	2.67	2.35	2.05	2.35	19	19	27	27
23	2.76	3.00	2.82	2.86	20	20	26	22
23	2.76	2.52	2.12	2.41	19	27	22	23
23	2.82	2.23	2.50	2.86	20	26	25	19
23	3.06	2.35	2.12	2.51	15	19	26	31
23	3.06	2.82	2.71	2.88	22	25	19	26
23	3.24	3.47	3.65	3.45	18	23	20	28
24	1.77	2.48	1.53	1.88	19	26	25	26
24	2.06	3.00	3.00	2.62	28	17	21	27
24	2.12	2.76	1.08	2.06	22	25	25	24
24	2.24	2.05	1.82	2.04	20	24	27	24
24	2.35	3.29	2.06	2.55	22	26	22	26
24	2.47	2.05	2.47	2.31	25	32	18	22
24	2.53	2.82	2.35	2.57	22	26	21	27

(Appendix A)

COMP.	1st QGPA	2nd QGPA	3rd QGPA	AVGPA	ENG.	MATH	SOC. S.	N. SCI.
24	2.75	3.17	2.83	2.92	18	19	27	32
24	3.06	3.61	1.35	2.60	22	24	25	24
25	1.53	1.58	1.25	1.44	20	28	24	26
25	2.00	2.69	2.50	2.52	23	20	31	25
25	2.76	3.05	3.06	2.96	23	33	21	23
25	3.76	3.52	3.06	3.45	23	23	27	27
26	2.00	1.82	2.00	1.92	26	23	20	25
26	2.06	2.50	2.38	2.30	20	23	30	30
26	2.06	1.64	1.85	1.85	22	30	27	24
26	2.12	2.05	2.12	2.25	20	31	27	25
26	2.24	2.15	0.88	1.72	23	29	23	28
26	2.53	2.29	2.06	2.29	17	30	26	29
26	2.53	2.82	2.35	2.57	22	25	27	28
26	2.71	2.82	2.53	2.69	27	29	19	27
26	2.76	3.05	2.76	2.86	23	32	20	26
26	3.50	3.29	3.65	3.48	22	28	26	27
27	2.06	2.52	2.00	2.18	22	25	31	30
27	2.35	2.05	2.29	2.24	26	29	28	29
27	2.53	3.00	2.06	2.54	22	28	27	27
27	2.76	2.76	2.29	2.59	22	30	26	28
27	2.82	3.29	2.00	2.71	27	29	21	29
27	2.94	3.30	3.00	3.13	23	29	25	28
27	3.76	4.00	4.00	3.92	20	30	27	29

(Appendix A)

COMP.	1st QGPA	2nd QGPA	3rd QGPA	AVGPA	ENG.	MATH	SOC. S.	N. SCI.
28	1.75	3.25	2.53	2.51	26	31	27	26
28	2.06	2.11	2.08	2.09	24	28	29	27
28	2.76	2.07	1.59	2.20	26	28	27	27
28	3.47	4.00	3.71	3.73	27	31	25	28
29	4.00	3.00	3.00	3.33	25	34	27	27
29	3.76	4.00	3.94	3.90	27	32	30	32

APPENDIX B

This appendix will contain the data that was obtained thru computation. The following explanation will provide the neccessary information to interpret the data.

1. - Composite score of the ACT.
2. - First quarter grade point average.
3. - Second quarter grade point average.
4. - Third quarter grade point average.
5. - Average or cumulative grade point average.
6. - English usage (sub-test of ACT).
7. - Mathematics usage (sub-test of ACT).
8. - Social studies reading (sub-test of ACT).
9. - Natural Sciences reading (sub-test of ACT).

Mean of 1 is 20.63	St. Deviation is 4.23
Mean of 2 is 2.18	St. Deviation is .65
Mean of 3 is 2.35	St. Deviation is .60
Mean of 4 is 2.26	St. Deviation is .61
Mean of 5 is 2.29	St. Deviation is .50
Mean of 6 is 18.39	St. Deviation is 4.33
Mean of 7 is 21.22	St. Deviation is 5.90
Mean of 8 is 20.37	St. Deviation is 5.21
Mean of 9 is 21.44	St. Deviation is 5.02

Standard error of the Mean is .350 for 1.

Standard error of the Mean is .053 for 2.

Standard error of the Mean is .049 for 3.

Standard error of the Mean is .051 for 4.

Standard error of the Mean is .041 for 5.

Standard error of the Mean is .360 for 6.

Standard error of the Mean is .490 for 7.

Standard error of the Mean is .430 for 8.

Standard error of the Mean is .410 for 9.

Correlation coefficients.

1 relates with 2	.50656936
1 relates with 3	.43472597
1 relates with 4	.25630441
1 relates with 5	.45974014
1 relates with 6	.77705784
1 relates with 7	.77280256
1 relates with 8	.71459040
1 relates with 9	.82121662
2 relates with 3	.63693124
2 relates with 4	.48564128
2 relates with 5	.82805063
2 relates with 6	.44318388
2 relates with 7	.41608168
2 relates with 8	.41315031

(Appendix B)

2 relates with 9	.37544840
3 relates with 4	.54016954
3 relates with 5	.84388557
3 relates with 6	.36418204
3 relates with 7	.33610924
3 relates with 8	.33627353
3 relates with 9,	.38624809
4 relates with 5	.80994487
4 relates with 6	.25332546
4 relates with 7	.23311016
4 relates with 8	.20975540
4 relates with 9	.28844168
5 relates with 6	.41899322
5 relates with 7	.36381805
5 relates with 8	.37098537
5 relates with 9	.40762720
6 relates with 7	.57317221
6 relates with 8	.47266075
6 relates with 9	.49k66623
7 relates with 8	.31112493
7 relates with 9	.54425022
8 relates with 9	.56103423