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THE G.P.A. CRITERION AND SELECTIVE RETENTION IN TEACHER EDUCATION.

BY- PIERSON, ROBERT A.

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TO DETERMINE WHETHER ARBITRARY GRADE-POINT AVERAGE CUT-OFF POINTS (E.G. 2.25) FOR ENTRANCE INTO TEACHER EDUCATION PROGRAMS ARE UNFAIR TO PRESENT-DAY STUDENTS, NINETY 1966 COLLEGE SOPHOMORES WITH FRESHMAN-YEAR GPA'S BETWEEN 2.00 AND 2.09 WERE COMPARED TO THE SAME NUMBER OF 1961 SOPHOMORES WITH FRESHMAN-YEAR GPA'S BETWEEN 2.25 AND 2.34 USING (1) POSITION IN HIGH SCHOOL GRADUATING CLASS AND (2) FRESHMAN SCAT AND ACT SCORES AS CRITERION MEASURES. IT WAS HYPOTHESIZED THAT THE 1966 SOPHOMORES WOULD HAVE HIGHER RANKS AND SCORES BECAUSE PRESENT-DAY SELECTION AND ADMISSION POLICIES MAY HAVE MADE THEM BETTER PREPARED THAN THEIR PREDECESSORS. CONTRARY TO EXPECTATIONS, IT WAS FOUND THAT THE 1961 STUDENTS RANKED HIGHER IN THEIR GRADUATING CLASSES AND HAD HIGHER FRESHMAN TEST SCORES, ALTHOUGH THE DIFFERENCES WERE NOT SIGNIFICANT. IT IS THOUGHT THAT THE DISCREPANCY MIGHT BE ACCOUNTED FOR BY THE FACT THAT GRADING POLICIES MAY HAVE REMAINED INVARIANT OR MAY HAVE BECOME SOMEWHAT MORE STRINGENT WITH RESPECT TO THE FRESHMAN AND SOPHOMORE POPULATION OF 1966. (AW)

Pierson, Robert A.
Western Ill. U. Dept. of Ed. Macomb, Ill.

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THE G.P.A. CRITERION AND SELECTIVE RETENTION IN TEACHER EDUCATION

One of the decisions faced by selection and retention committees in teacher education is when to deny a student admission into the universities or college senior devision.[1]

In most cases, this decision is based on information regarding the students' G.P.A., various recommendations, the result of a personality test, and whether or not various screening tests were passed. (Speech and hearing)

In an attempt to upgrade the teaching profession, as well as promote and maintain higher standards, many institutions have required a G.P.A. higher than 2.00. (Typically 2.25 or higher) This suggests that students who fall below this arbitrary cut-off point have failed to demonstrate the academic competencies necessary to be admitted into the final phase of the teacher education program. However, it may well be that such a practice excludes many students who by the very nature of present-day selection admission policies have come to college much better prepared than their predecessors for whom these standards were intended.

Based on the premise that the aforementioned assumption is valid, an investigation was conducted at Western Illinois University to answer the following question:

Do sophomore students in 1966 with G.P.A.'s between 2.00 and 2.09 rank higher than 1961 sophomore students whose G.P.A.'s were between 2.25 and 2.34, if the variables of position in high school graduating class and freshman test scores are compared?

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[1]Typically, during the third quarter or second semester of the sophomore year students who wish to continue in the program of teacher education submit a written application to some official, stating that they have met certain criteria usually established by the school in question.

Postulating that the answer to the above problem was positive, the following hypotheses were formulated:

H_1: Sophomore females in 1966 with G.P.A.'s between 2.00 and 2.09 will rank higher in their respective high school graduating classes than will sophomore females of 1961 whose G.P.A.'s were between 2.25 and 2.34.

H_2: Sophomore males in 1966 with G.P.A.'s between 2.00 and 2.09 will rank higher in their respective high school graduating classes than will sophomore males of 1961 whose G.P.A.'s were between 2.25 and 2.34.

H_3: Excluding the variable of sex, the 1966 sophomore sample with G.P.A.'s between 2.00 and 2.09 will have higher class ranks in their respective high school graduating classes than will the 1961 sample of sophomores whose G.P.A.'s were between 2.25 and 2.34.

H_4: Sophomore females in 1966 with G.P.A.'s between 2.00 and 2.09 will have composite freshman test scores higher than sophomore females of 1961 whose G.P.A.'s were between 2.25 and 2.34 if local norms are used as a basis for comparison.

H_5: Sophomore males in 1966 with G.P.A.'s between 2.00 and 2.09 will have composite freshman test scores higher than sophomore males of 1961 whose G.P.A.'s were between 2.25 and 2.34 if local norms are used as a basis for comparison.

H_6: Excluding the variable of sex, the 1966 sophomore sample with G.P.A.'s between 2.00 and 2.09 will have composite freshman test scores higher than the 1961 sample of sophomores whose G.P.A.'s were between 2.25 and 2.34.

METHOD

Subjects: The subjects for the 1961 sample were 25 sophomore females and 65 sophomore males whose cumulative G.P.A. was between 2.25 and 2.34 at the completion of either the spring or fall term of 1961. The mean number of quarter hours completed by the female and male sample was 64.3 and 65.7, respectively. All subjects were chosen at random and transfer students for whom no data were available were excluded from the sample.

The subjects for the 1966 sample were 25 sophomore females and 65 sophomore males randomly chosen from the list of students whose cumulative G.P.A.'s after completion of the spring term were between 2.00 and 2.09. The mean number of quarter hours completed by the 1966 sample was 53.6 and 51.4 for the females and males, respectively.

Measures: The mean rank in high school graduating class for all subjects was determined by algebraically summing the resultant ratios (ranking 4th in a class of 24 would be equal to .1666, etc.), then dividing by N. Grade point averages were summed to determine means and standard deviations.

Freshman test evaluation for the 1961 sample was determined by using the total score from the S.C.A.T. Since the 1966 sample had been evaluated by the A.C.T., the composite score from the latter formed the basis for comparison. Mean

scores and standard deviations were determined for each sample based on local norms from the 1960 and 1965 freshman classes, respectively.[2] Mean scores were converted to Z scores for purposes of statistical analysis.

TABLE I

G.P.A. MEANS AND STANDARD DEVIATIONS

	N	Mean	S.D.	t ratio
1961 Sophomore Females	25	2.292	.052	20.08*
1966 Sophomore Females	25	2.041	.033	
1961 Sophomore Males	65	2.291	.026	44.36*
1966 Sophomore Males	65	2.047	.037	
1961 Sophomore Total	90	2.291	.042	42.06*
1966 Sophomore Total	90	2.046	.035	

t ratios compare 1961 females with 1966 females, etc.

*p $<$ .01

Inspection of Table I readily reveals the discrepancy in G.P.A.'s between the two samples. The t test of a difference between means shows this discrepancy to be significant beyond the .01 level.

TABLE II

MEAN RANK IN HIGH SCHOOL GRADUATING CLASS

	N	$\bar{P}e$	$\bar{Z}$ ratio
1961 Sophomore Females	25	.2625	.71**
1966 Sophomore Females	25	.3544	
1961 Sophomore Males	65	.4228	.62**
1966 Sophomore Males	65	.4771	
1961 Sophomore Total	90	.3783	.88**
1966 Sophomore Total	90	.4430	

Z ratios compare 1961 females with 1966 females, etc.

**Not significant

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[2]In both cases the local norms either approximate the national norms or were higher.

Table II shows the mean rank in high school graduating class presented in ratio form. For the 1961 female sample a mean ranking of .2625 was obtained, whereas the mean ranking for the 1966 sample was .3544. Even though the mean high school class rank for the 1961 sample falls near the 75th centile, a $\overline{Z}$ ratio of .71 indicates there is no significant difference between the two female samples. Thus, the data indicate that the first experimental hypothesis be rejected and the null hypothesis accepted. Inspection of the 1961 and 1966 sample of males reveals mean high school class ranks of .4228 and .4771, respectively. The resultant $\overline{Z}$ ratio of .62 indicates that the second experimental hypothesis be rejected and the null hypothesis accepted. Combining both sexes in the 1961 and 1966 samples reveals mean high school class ranks of .3783 and .4430, respectively. A $\overline{Z}$ ratio of .88 indicates that the third experimental hypothesis be rejected and the null hypothesis accepted.

TABLE III

TOTAL SCORE ON FRESHMAN TEST PRESENTED IN Z SCORE FORM

	N	Mean Z Score	$\overline{Z}$ ratio
1961 Sophomore Females (S.C.A.T.)	25	0	0**
1966 Sophomore Females (A.C.T.)	25	0	
1961 Sophomore Males (S.C.A.T.)	65	-.036	1.11**
1966 Sophomore Males (A.C.T.)	65	.230	
1961 Sophomore Total (S.C.A.T.)	90	-.023	1.02**
1966 Sophomore Total (A.C.T.)	90	.068	

$\overline{Z}$ ratios compare 1961 females with 1966 females, etc.

**Not significant

Table III presents total scores or the freshman tests in Z form. Note that mean total scores for the female sample are at the 50th centile even though the

1961 sample is superior with respect to G.P.A. A $\overline{Z}$ ratio of 0 suggests that the fourth experimental hypothesis be rejected and the null hypothesis accepted. Mean Z scores on the freshman tests for the male sample are -.036 for the 1961 group and .230 for the 1966 group. These Z scores place the two groups at the 48th and 59th centiles, respectively. A $\overline{Z}$ ratio of 1.11, highest obtained in the study, almost reaches significance at the 5 per cent level (two-tailed test). However, the fifth experimental hypothesis is rejected and the null hypothesis accepted.

Combining the sexes in the 1961 and 1966 samples yields mean Z scores of -.023 and .068, respectively. A $\overline{Z}$ ratio of 1.02 leads to rejection of the sixth experimental hypothesis and acceptance of the null hypothesis.

DISCUSSION

Kerlinger defines Ex Post Facto research as..... "that research in which the independent variable or variables have already occurred and in which the researcher starts with observation of a dependent variable or variables. He then studies the independent variables in retrospect for their possible relations to and effects on the dependent variable or variables." Notably, this is an ex post facto study and, as such, contains the weaknesses unique to this type of research. However, methodological weaknesses within this framework have been somewhat minimized by randomizing the sample and by formulating specific hypotheses.

In the present investigation, it was noted that without exception, all experimental hypotheses were rejected. That is, the 1966 sophomore sample with a mean G.P.A. of 2.04 did not rank higher on the variables of high school class rank and freshman test scores than did the 1961 sophomore sample whose mean

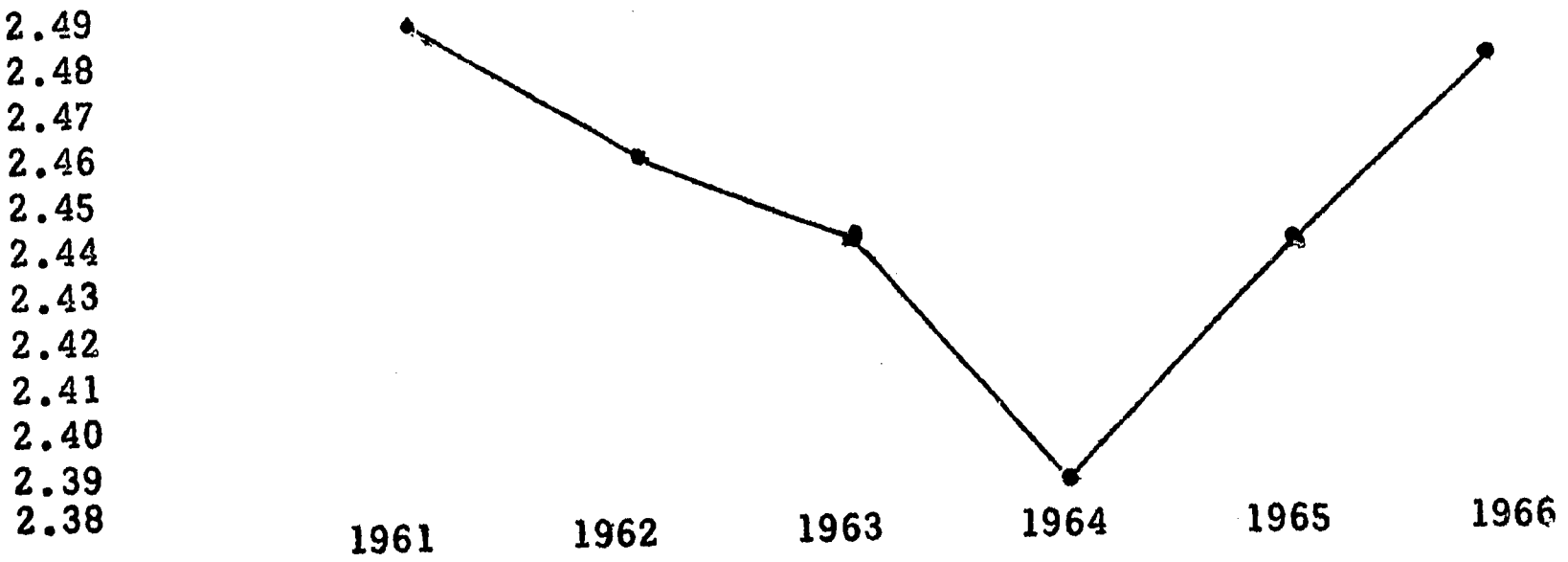
G.P.A. was 2.29 even though the present demand for entrance into a university or college has raised admission requirements considerably.

What this study reveals is the fact that although the two groups vary significantly with respect to G.P.A., they do not differ significantly on the variables in question.

Notwithstanding factors of motivation, etc., this discrepancy could be accounted for by the fact that grading policies may have remained somewhat invariant or may have become somewhat more stringent with respect to the freshman and sophomore population, in spite of the fact of rising admission standards. Figure I demonstrates this point quite nicely.

FIGURE I

CUMULATIVE G.P.A. OF SOPHOMORES AT THE END OF THE FALL TERM BETWEEN 1961 and 1966[3]



Note that between the years 1961 and 1964 the G.P.A. gets progressively lower before rising in 1965. This paradox occurs even though admission policies have become more and more selective.

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[3]Based on data from the Director of Admissions, Western Illinois University.

It appears then that institutions who require G.P.A.'s above 2.00 for entrance into their respective senior divisions of teacher education constantly examine and re-evaluate the grade point criterion in terms of institutional grading policies to determine if the latter have kept pace with the ever increasing competencies of present-day freshmen.

It is interesting to note that some 46 students in the 1961 sample received degrees in teacher education and 15 more in the arts and sciences. In light of selective admission policies regarding the G.P.A. for admission into the senior division it would appear that a good number of competent present-day students will never receive the opportunity to achieve the success that their predecessors enjoyed.

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2. Kerlinger, Fred N. Foundations of Behavioral Research, New York: Rinehart and Winston, 1965.