

**PRIOR MATRICULATION, SPECIFIC ACADEMIC
EXPERIENCE, AND PRE - AND POST - PERFORMANCE
ON AN EDUCATIONAL PSYCHOLOGY TEST**

Newell T. Gill

Florida Atlantic University

SUMMARY

Students entering the educational psychology course sequence for teacher education at Florida Atlantic University are examined. Previous educational and pre-post course test scores were analyzed. Differences were encountered.

The problem that prompted this rather loose survey of education students could hardly be called serious. The intent was simply to learn more about the students being fed into the educational psychology sequence (ED 304) of our teacher education program.

Florida Atlantic University draws its students from a wide spectrum of Junior Colleges and Universities. The effect of this differential selection relative to aptitude and subsequent performance was felt to be of interest to our faculty and possibly to some of the academic deans of the junior colleges involved.

A questionnaire was given to students enrolled in ED 304 toward the termination of the Spring Quarter 1970. The questions sought answers to the following queries:

1. Where did the student matriculate prior to attending F.A.U.?
2. Of those who had attended a Jr. College, which ones had taken previous courses of a child development nature?
3. Finally, what grade did they receive in that course?

The data were then analyzed in conjunction with the student's performance on a pre-post 80-item multiple-choice educational psychology test. The test items covered the following areas:

- I. Pre-school
- II. Middle Years and Adolescence
- III. Behavior Modification
- IV. Field Theory
- V. General questions related to Child Psychology—e.g. emotion, frustration, motivation, etc.

This test has been used for the past year, both as a diagnostic instrument at the beginning of the term and as an indication of progress at the end. The staff has found it to be quite helpful in both instances. The pre-post \bar{X} 's (means) have consistently been very stable (Pre-test $\bar{X} = 42$; Post-test $\bar{X} = 49.5$). The time lapse between tests has generally been nine to 10 weeks. The corrected split-half reliability coefficient has consistently been in the low .80's and high .70's for both the pre- and post-tests.

Because of absences during the periods of time that the pre- and post-tests were being given and the administering of the questionnaire, 150 of the 341 ED 304 students had to be dropped from the study. It should be noted, however, that the sample of 191 subjects still represents better than 56% of the population under study.

Analysis of Data

Data analysis proceeded in the following manner:

- (1) Biserial correlation analyses (for those having attended a junior college) between having taken a child development course, the scores on the diagnostic test, and the post-diagnostic test.
- (2) Correlation analyses (for those having taken a child development course at a junior college) between the grades achieved in the course, pre-diagnostic and post-diagnostic tests.

- (3) \bar{X} 's and SD's for both the pre- and post-diagnostic tests for each junior college were computed.
- (4) Employing only those subjects who had attended junior college, two separate one-way analyses of variance were computed on the pre- and post-test data between those not having had the development course, those having had it and made a C or less, and those having had it and made a B or more.
- (5) Two t-tests were computed to determine if there is a significant difference between the performance of the student who takes his first two years of college at a four-year institution and the performance of the junior college student on either the pre- or the post-diagnostic test.

Results

Only a very minimal positive relationship was found between the question of having had a development course at a junior college and performance on either the pre- or post-test ($r_{pre} = .17$; $r_{post} = .10$). Taking into consideration grades received in the course did not appreciably increase the relationship ($r_{pre} = .24$; $r_{post} = .19$). The high correlation between the pre- and post-tests was encouraging to the test maker ($r = .73$). This would seem to indicate a sizeable degree of test stability plus an acceptable margin for change due hopefully to the acquisition of knowledge.

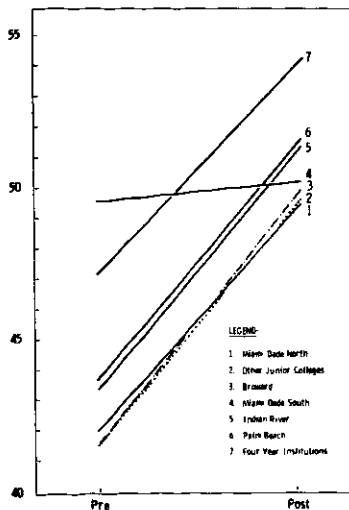
The group comparison of \bar{X} 's from various colleges is quite interesting (Table 1).

Unfortunately, whether or not a student had had a development course was not considered in this comparison. Figure 1 illustrates a striking parallel between the rate of achievement of each group with the one exception of Miami Dade South. That groups tend to maintain their relative positions despite their level of entry would seem to indicate that the ED 304 sequence has a positive effect on most students. That is, it allows students coming into the program, each at a different level of awareness, to build upon this previously acquired knowledge.

Table 1
Sample Distribution (N = 191)

College or University	N	\bar{X} pre-test	SD	\bar{X} post-test	SD
<i>Junior College</i>					
Keys Jr. College	1	--		--	
Miami Dade North	31	42.0	9.0	49.5	8.5
Miami Dade South	6	49.5	7.3	50.2	5.9
Broward	41	41.5	8.4	49.9	7.6
Palm Beach	41	43.7	9.2	51.6	8.4
Indian River	16	43.3	5.5	51.3	6.6
Edison	3	41.7	16.0	52.0	5.3
Other Jr. Colleges Not Listed	31	41.5	8.6	49.6	10.1
TOTAL	170	42.6	8.6	50.3	8.2
<i>Four Year Institution</i>	21	47.1	9.5	54.2	7.7

FIGURE 1
 Pre- and Post-Tests Means by College



The comparison of junior college students: (1) having made an A or B in a development course; (2) made a C or less on a development course; and (3) not having had a development course, is most instructive (Table II and Figure 2).

Table 2

GROUP	N	\bar{X}_{pre}	\bar{X}_{post}
A or B in Course	62	45.3	52.7
C in Course	22	40.3	46.9
No Course	86	41.2	49.5

FIGURE 2

Comparison of Jr. College Students:

Having made an A or B in development course; made C in course; and those not having had development course.

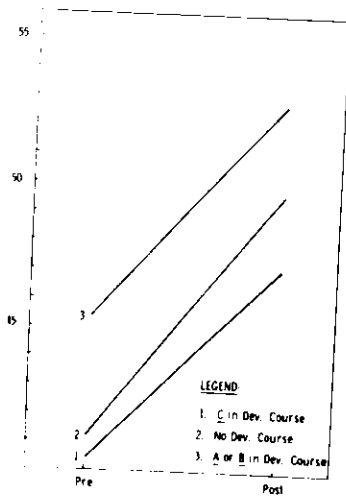
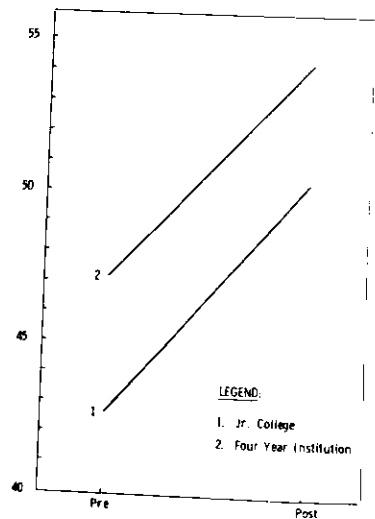


FIGURE 3

Comparison of Four Year Institution With Jr. College



Differences between groups for both pre- and post-tests were statistically significant ($F_{pre} = 5.37, p = .006$; $F_{post} = 5.29, p = .006$). Having made an A or B in a development course at a junior college would certainly seem to be a predictor of performing well on the diagnostic test.

Students who made a C actually performed more poorly than either of the other two groups. It may be that making a C in a development course at the junior college level is indicative of the individual's general academic style.

The result of the comparison between the junior college and the four-year-institution students on the diagnostic tests was somewhat expected (Figure 3). The differences between groups on both the pre- and post-tests were statistically significant ($t_{pre} = 2.09, p = .034$; $t_{post} = 2.14, p = .030$). It was interesting to note once again the apparent tendency for the groups to maintain their relative positions in achievement over time. The superior performance of the four-year institution students is most likely a result of selection policies. The difference between \bar{X} 's of the junior college students having achieved an A or B in a development course and the four-year institution students can hardly be considered significant. This being the case, it would appear that this A-B junior college group is either, in general quite similar to the four-year institution group, or has acquired an academic boost in a specific area (child development) during their junior college experience. It would naturally be most encouraging to the junior college faculty should the latter prove correct.

Discussion

As was mentioned in the introduction of this study, there was no pressing problem, simply curiosity concerning the influx of students into a particular sequence in our teacher education program. The low correlations between junior college attendance, grades in a development course and scores on the Ed 304 diagnostic test were somewhat confusing in light of the results illustrated in Figure 2. It had been assumed that having had a development course would be more advantageous and thus enhance the diagnostic scores, and that a C in this particular course was certainly better than no course at all. This assumption, as demonstrated, is only partially correct. Whether or not the particular course is helpful would seem to depend upon the individual's general academic aptitude and the grade achieved.

Obviously, both factors are related. The fact that: (1) students who had not had the course performed better than those having made a C; and (2) some junior colleges either have a difficult time counseling students into a development course or possibly do not offer such a course, precludes the possibility of any sizeable relationship of the type sought in this study.

That some groups performed better, depending upon their junior college membership, should probably not be attributed to differences in the quality of instruction between the junior colleges, but rather to differences in the populations from which their students are drawn. Their tendency to maintain their relative positions would seem to support this assumption (Figures 1 and 2).

In conclusion, it appears quite evident that most students, regardless of their previous academic background, apparently benefit from the ED 304 sequence. Such an assumption should not be made, however, without considering the extent to which the ED 304 Diagnostic Test is sensitive to the objectives of the course.