

A FOLLOW-UP STUDY OF 331 HUMACAO, PUERTO RICO
REGIONAL COLLEGE ALUMNI FIVE
YEARS AFTER STARTING AS FRESHMEN

A Dissertation
Presented to
the Faculty of the College of Education
University of Houston

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
Guillermo Velázquez Flores

May 1976

ACKNOWLEDGEMENTS

I wish to express my appreciation for the efforts of all those who have been involved in the planning and execution of this study.

It is dedicated:

to all personnel of the University of Houston, who showed understanding and dedication in all facets of my work, as represented by Dr. Gerald E. Osborne,

and to my family, as represented by my wife Gladys, Arlene, William, and Orlando, who were moldable enough to share in this very rewarding and demanding experience.

A FOLLOW-UP STUDY OF 331 HUMACAO, PUERTO RICO
REGIONAL COLLEGE ALUMNI FIVE
YEARS AFTER STARTING AS FRESHMEN

An Abstract of a Dissertation
Presented to
the Faculty of the College of Education
University of Houston

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
Guillermo Velázquez Flores

May 1976

Velázquez-Flores, Guillermo. "A Follow-Up Study of 331 Humacao, Puerto Rico, Regional College Alumni Five Years After Starting as Freshmen." Unpublished Doctor's Dissertation, University of Houston, May, 1976

ABSTRACT

The University of Puerto Rico is an organic system of public higher education with a President as director and the Council on Higher Education as its governing board. The system is composed of the following autonomous units, each headed by a Chancellor: the University Campus at Río Piedras, the University Campus at Mayaguez, the University Campus for Medical Sciences, and the Administration of Regional Colleges of Higher Education.

The Río Piedras Campus is one of the two units included in this study. It is by far the largest campus with an enrollment of 26,357 students. The second unit is the Humacao Regional College, which began operations in August 1962 at the city of Humacao with 267 students. Presently it has close to 3,000 students and 150 faculty members. The Humacao Regional College is a sub-unit headed by a Director, who is responsible to the Chancellor for all academic and administrative operations of the college.

Considering the need for a systematic study of the public junior college in Puerto Rico, and with the advantage that most Humacao students do transfer to the main campus at Río Piedras, a fact finding

a fact finding survey of all full-time students working toward a bachelor's degree and registered for the fall of 1967 was done at Humacao. All transfer students (331) to the General Studies Faculty were included. Their official transcripts for five consecutive years including the spring of 1972 served as the main source for basic data. A multiple correlation matrix was prepared for the following variables: (1) Sex, (2) College Board Percentage, (3) High School General Point Average, (4) Humacao College General Point Average, (5) Rio Piedras Campus General Point Average, (6) Total College General Point Average, (7) One or More Probations, (8) One or More Courses Dropped, (9) One or More Departmental Changes, (10) Termination Year (1 to 5), (11) Success, (12) Age, and (13) Transfers.

Conclusions and Recommendations

Conclusions

1. Correlations among variables studied were low.
2. For the students who did well, either at Humacao Regional College, or the University main campus, there was no consistent relationship with any of the variables studied.
3. The typical student with 2.0 or better academic index either at Humacao or Rio Piedras main campus may be described as follows: has a higher Humacao point average, has a higher Rio Piedras point average, stays longer at the University, transfers to Rio Piedras and was not on probation.

4. The criteria used to select students in the Fall of 1967 at Humacao Regional College had a very low correlation with academic success. High School point average and College Board percentile had a .15 and .18 correlation respectively with success.

Recommendations

1. Guidance services should be strengthened in both units so as to make the transition to the senior institution less cumbersome.

2. Incoming junior college students should be assigned to special advisors prepared to orient them in all academic matters related to transition problems.

3. Research on college achievement and related academic factors affecting the Regional College student may provide elements of judgement of more predictive value than the ones used in Puerto Rico for college admission.

4. Establishment of an introductory orientation course.

5. Establishment of a summer remedial and selective institute until the open door policy could be implemented.

6. Articulation between the community college and the university should be further developed.

7. There should be an on-going evaluation of the transfer process of junior college students.

8. The establishment of a Regional College Coordinator at the university. This person should be responsible for developing a more efficient program of articulation for the two-year college transfer students.

TABLE OF CONTENTS

Chapter	Page
Acknowledgments	iii
Abstract	v
I. STATEMENT OF THE PROBLEM	1
Introduction	1
Purpose of the Study	2
Location of the Study	3
II. BACKGROUND AND RELATED RESEARCH	5
The Junior College at Puerto Rico	5
Related Junior College Research	6
Summary	14
III. METHODOLOGY	15
Sample.	15
Identification of Variables	16
IV. FINDINGS.	19
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	30
Summary	30
Conclusions and Recommendations	32
BIBLIOGRAPHY.	34
APPENDIX.	39

CHAPTER I
STATEMENT OF THE PROBLEM

Introduction

The public junior college is a recent development in Puerto Rico. The first two-year public college was established in 1962 at Humacao. At that time, the University of Puerto Rico at Río Piedras had an enrollment which taxed its faculty and facilities to its limits, but more qualified students were clamoring for admission. The Junior College, where students could complete the freshman and sophomore years and then transfer to the main campus at Río Piedras, seemed to be an answer.

On June 19, 1961, the Legislature of Puerto Rico passed Law 75 directing the Department of Public Instruction and the University of Puerto Rico to prepare a plan for the establishment of centers for higher and post-secondary education at locations on the island according to the criteria mentioned in the statement of purposes of the law. Three months later, on the 29th of September the Legislature, in Joint Resolution No. 46, assigned \$400,000 to the University of Puerto Rico for the establishment of a Regional College in the City of Humacao as a center for higher or post-secondary education.

The Humacao Regional College demonstrated the need and feasibility of the public two-year college. The legislature, recognizing the importance of this new educational institution, granted its autonomy within the University of Puerto Rico administrative structure in the 1966 University Law, thus making it possible to establish the Administration of the Regional Colleges in October 1970.

Purpose of the Study

After thirteen years of experience with this new and highly complex system, there has been no systematic study of any of the many facets within the college. Unfortunately, there is very little or no objective information available for reference. At this point in the history and development of the regional college there is a need for base line data, a description of some aspects of what is known. The analysis of these data should contribute to a better understanding of the conditions and situation relative to success or failure, which may at the same time suggest needed modifications.

Consequently, the purpose of this study was to complete a fact finding survey about the Regional College System and a group of students of the Humacao Regional College which would provide the decision making agents a starting point to reaffirm, change or modify present policy, and serve as the groundwork for future research.

Location of the Study

The Río Piedras Campus was one of the two units included in the study. It is by far the largest Campus of the University of Puerto Rico with an enrollment of 26,357 (73-74) 51% of the total enrollment of 50,439. It offers six Bachelors degrees with 73 different concentrations, nine Masters programs with 29 specializations and two doctoral programs, one in Spanish and one in Chemistry. The typical Bachelor's degree programs require about 130 credits of which 40% constitute general education courses while the rest is distributed between required and elective courses. The academic program is such that provides for the training of teachers, lawyers, social workers, public administrators, planner, librarians, architects, and pharmacists.

This Unit has a faculty of 1,316 teachers, six hundred sixty-six are men and 650 women. Three hundred seventy-five have a doctorate, 783 a Master's and 158 a Bachelor's degree. In the four main rank classifications there are 227 Professors, 393 Associate Professors, 379 Assistant Professors, and 243 Instructors.

The second unit was Humacao Regional College, inaugurated August 20, 1962, in the city of Humacao. The College which started with 267 students and 22 faculty members has grown to 3,000 students and 150 faculty members. It moved to its present permanent quarters on August, 1972.

The success of the Institution proved the feasibility of the public two-year college, motivating the administration of the University of Puerto Rico to continue its projected plans for additional two-year colleges in Arecibo 1967, Cayey 1967, Ponce 1970, Bayamón 1971, Aguadilla 1972, Carolina 1973, and a series of other which are now in the planning stage.

The two-year Associate Degree Program was incorporated into the Humacao Regional College Curriculum in 1967. Three new choice areas were available to incoming freshmen by introducing Secretarial Sciences, Nursing and Business Administration, thus placing the traditional first two years of the B. A. Program side by side with these specialized, university level, technical programs. Since then, offerings more than doubled by adding Associate Degrees in Physical Therapy, and Occupational Therapy 1969, Audiovisual Technology 1971, and Physical Education and Recreation in 1972. At present an Associate Degree in Chemical Technology is under consideration.

CHAPTER II

BACKGROUND AND RELATED RESEARCH

The Junior College at Puerto Rico

In Puerto Rico the junior college development was very slow and restricted to the more populous area of San Juan. The university was really for an elite and a few very bright low and low middle class students who were fortunate enough to take advantage of the scholarships available.

The first junior college (The Puerto Rico Junior College, Río Piedras) was a private institution, which was rather a commercial and secretarial institute. The college appeared in the late thirties and had partial success until the late forties when the influx of veterans gave it a good lift that converted the college into one of the largest and most stable private educational institutions in Puerto Rico.

Modifications of the open door policy

The University of Puerto Rico was an open university until the early fifties when the great demand for studies forced the institution to establish a modified open door policy. A college entrance test was prepared and administered by the university. College personnel, mostly

professors, were trained and distributed among the island high schools to administer the test. The institution estimated the number of openings for the first year, and the students were admitted according to performance. This system persisted until the early sixties when all universities, public and private, decided to use the College Entrance Examination Board services. The college board test is a composite of aptitude and achievement tests made especially for bilingual Puerto Rican high school graduates. The first part covers verbal and mathematical aspects, and the second English, Spanish, and Mathematics. The results of the test and the high school index are changed into percentiles which are used according to each unit openings.

The consequence of this set up leaves a large segment of low income student out of the public system and forced to pay high tuition in private colleges where they are accepted with lower percentiles. The public two-year college which started in 1962 at Humacao came to alleviate the situation in part. All regional colleges require lower entrance criteria than the four year public units with preference for those students belonging to the region.

Related Junior College Research

Community college coordinator

A study by Dr. Ernest W. Beals (1968) had as a major purpose to determine certain academic characteristics and patterns of academic

success of community college students who transferred to the University of Massachusetts. Comparisons were made in academic aptitude, academic achievement of the transfer and regular students, and academic work in the community college at the upper division after transfer.

Dr. Beals found that the community transfer group was lower than the regularly enrolled university students in terms of academic achievement. The community college group achieved lower than the university group for the first semester after transfer, but they achieved nearly as well as the regularly enrolled at their eighth semester. The academic achievement record at the community college was the best predictor of academic success after transfer.

The conclusion of this work showed the contribution of the community college, recommended its expansion, the creation of a community college coordinator in charge of the articulation of both systems, and on-going evaluation of the transfer process.

Lack of precise identification

Dr. Harland R. Salisbury (1969) studied the development of the community college in the United States from 1937 to 1967. Three hundred thirty-nine articles related to the junior college were examined. He found a growing indistinction due to a tendency of educators to focus upon individual sub-identities of the two-year college. He observed the lack of orientation of the institution,

the need for a more precise identification, and emphasized the need for both long and short range studies of the community college.

Reducing attrition

Dr. Manuel Stillman studied (1970) the effect of preventive treatment of potential low academic achievers at New York City Community College. The purpose of the study was to determine if an improvement in academic achievement and a reduction in student attrition could be obtained through the identification and treatment of potential low achievers and potential academic dropouts among community college students studying electrical and mechanical technology.

A treatment was developed consisting of a structured faculty advisor system. Volunteer faculty, called sponsors, aided high risk second semester freshmen through a series of planned interviews, referrals to college resources and direct help. The experimental group was found to have an average second semester grade point index of 0.507 higher than that of the controls. A "t" test for paired observations resulted in a "t" statistic of 2.54. Consequently the experimental hypothesis: The use of the special treatment process improves the second semester grade-point-average of a group of poor academic achievers in electrical and mechanical technology of a community college, was accepted at the 0.05 level of significance.

University impact on transfer students

Dr. Dell N. Thompson studied (1970) at Albany the impact of a university on transfer students from two-year colleges as it relates to selected personality variables. In addition the investigation was designed to compare native juniors and transfer students on the same selected personality measures. A sample of 604 undergraduate students included transfer students entering the University for the first time during the fall semester, 1968, 1969, and 1970, and students identified as native juniors during the 1969-70 academic year. In this design three major comparisons and three supplementary comparisons were used to determine the impact of the university on transfer students on the following Omnibus Personality Inventory measures: thinking introversion, complexity, autonomy, impulse expression, and practical outlook. Pre and post test comparisons were made using an analysis of covariance technique.

The transfer students were significantly lower on the complexity and higher on practical outlook at the beginning of the 1969-70 academic year. By the conclusion of the same year these differences had disappeared. The results of the study tended to support the notion of impact as it relates to transfer students.

Concerns of the non-transfer student

An appraisal of the educational programs of Columbia Basin College was done by Dr. Miles W. King (1970). A questionnaire was submitted to

a random sample taken from a list of students who had attended the college from 1965 through 1968 but had not transferred to another institution. The purpose of the study was to determine the extent to which the program at Columbia Basin College was consistent with certain philosophical assumptions which are basic to the community college movement.

From the conclusions and recommendations the following are pertinent: (1) There was a high degree of upward educational mobility because of the existence of the college. (2) Outside employment was not detrimental to completion of a college program until employment reached 40 hours per week. (3) Level of parental income was not related to successful completion of a program at the college. (4) New procedures and techniques needed to be implemented to improve faculty advising and counseling. (5) The student was primarily concerned with those aspects of the program which would be of immediate benefit in obtaining employment and traditional extra-curricular activities were not viewed as being of great value.

Factors related to success and failure

Dr. Charles L. Foxworth (1971) studied the factors related to academic performance of students admitted to the Roswell Community College in New Mexico between 1958-1967. The purpose of the study was to determine the performance of the student and consider factors

related to success and failure. A total of 906 students was included in the study by a one-in-three random sample of students enrolled in the academic division from the fall of 1958 through the spring of 1967. The "t" test, analysis of variance, product-moment correlations, and multiple regression were used in testing for differences in achievement.

Some of the significant conclusions are as follows: (1) Students admitted on an unconditional basis performed satisfactorily. Those transferred from other colleges performed better than those who were admitted directly from high school. (2) A significant difference was found between the academic performance of students, with the difference favoring those who were unconditionally admitted. (3) The number of years an individual had been out of school before attending college had a positive relationship to the final grade-point average. (4) The best predictor of success was high school average. Other predictors, in the order of their value, were S.C.A.T.-Composite scores, sex, age, marital status, and the number of semester hours completed.

Achievement of regional campus vs. main campus students

An investigation of the academic achievement of regional campus students relative to main campus students was done at Purdue University by Dr. Roger J. Manges (1966). All students who were enrolled as freshmen in either the school of science or engineering at a

regional campus in the fall of 1961 were used as subjects. They were matched for high school rank, school enrolled, sex, and general point averages for various semesters with students on the main campus. The general point average of the regional campus group dropped significantly the semester after transferring but returned to its earlier level the second semester after transferring. There was no significant difference between the groups in the proportion of students placed on probation or dropped. Significantly more students in regional campus discontinued their studies for non academic reasons, and no differences were found between the mean age or course load of regional and main campus students.

Transfer students achievement at the University of Puerto Rico

Due to the recent development of the public two-year college there is very little research in this area in Puerto Rico. As part of the self-study of the Humacao Regional College (1974) presented to the Middle States Association of Colleges and Secondary Schools three groups transferring to Río Piedras were analyzed with the following results: (p. 31)

Class of 1965-66

1. 68% of the students who initiated their first year reached their second one.
2. 56% applied for transfer to the Río Piedras Campus.
3. 50% were admitted and registered in Río Piedras.
4. 37% graduated from Río Piedras.

Class of 1966-67

1. 71% of the students who initiated their first year reached their second one.
2. 68% applied for transfer to the Río Piedras Campus.
3. 49% were admitted and registered in Río Piedras.
4. 29% graduated from Río Piedras.

Class of 1967-68

1. 87% of the students who initiated their first year reached their second one.
2. 86% applied for transfer to the Río Piedras Campus.
3. 66% were admitted and registered in Río Piedras.
4. 43% graduated from Río Piedras.

There is a continuous increase in the number of students in the transfer programs who reach their second year as well as in the number who apply for transfer to Río Piedras. In proportion of students admitted and registered in Río Piedras as compared to the ones who graduate, there is a slight decrease during the second year and a marked increase in the third. The study closes with the following statement:

Thus, we can definitely say that there is a general tendency to improve the percentage of retention of our students while at Humacao, and that the proportion of students who are completing their bachelor's degrees in Río Piedras that come from Humacao, though still under 50%, has been improving. (p.32)

Summary

The junior college development in Puerto Rico was very slow and restricted to private institutions in the capital of the island. The open door policy of the public university had to be terminated in the early fifties, which resulted in the advent of the public junior college in 1962.

The number of Humacao Regional College students transferring and graduating at the main campus at Río Piedras was so low that lacking local research the investigator looked to state side studies for related research.

Research showed a consistent pattern sustaining the community college as an asset to post-secondary education, and recommended its expansion. Most problems centered around the lack of articulation and definite orientation of colleges, the need for a more precise identification of the institution, and the lack of efficient advising and counseling.

CHAPTER III

METHODOLOGY

This was a descriptive study of the Regional College System and a specific group of students in relation to the "mother" institution, The University of Puerto Rico at Rio Piedras. With the advantage that most of the Humacao students do transfer to the main campus, objective information could be derived from their college transcripts in both institutions. Authorized by the Chancellor and Director, official data was obtained from transcripts of the Regional College in Humacao and Rio Piedras.

Sample

Originally, it was planned to use a random sample of 200 students, but considering the relative small population, under the advice and consent of the Research Committee, the decision was made to include all 331 students. The study thus included all full-time students (12 or more credits) registered for the Fall Semester of 1967 at the Humacao Regional College who had declared they sought to work toward a four-year bachelor's degree.

The following data were tabulated for each student and a correlation matrix of intercorrelations was prepared by the Houston University Computing Center under the direction of Dr. John A. Cox:

1. Sex
2. College Board Percentage
3. High School General Point Average
4. Humacao College General Point Average
5. Río Piedras Campus General Point Average
6. Total General Point Average
7. One or More Probations
8. One or More Courses Dropped
9. One or More Departmental Changes
10. Termination Year (1 to 5)
11. Success (2.00 or better at the end of the Spring of 1972 or Termination Year)
12. Younger or Older (less than 18 - 18 or more)
13. Transfers

Identification of Variables

1. Sex. Of the 331 students in the sample, 183 were females and 148 males.
2. College Board Percentage. All 331 students had taken the Puerto Rico College Board Entrance Test prepared for use in the island by the College Entrance Examination Board (CEEB). The scores used in this study were percentile scores obtained from norms for Puerto Rico.

3. High School General Point Average. This grade point average (GPA) was computed directly from official high school transcripts covering the full four years of high school and including grades in all courses recorded on the transcript.
4. Humacao College General Point Average. This Grade Point Average was computed directly from official transcripts from Humacao College and included all Grades recorded on the transcript in all courses, and was in terms of a continuous scale from 0 to 4.
5. Río Piedras Campus General Point Average. This GPA for each student was computed from official transcripts of the University of Puerto Rico at Río Piedras and again included all grades recorded in all courses on the transcript and also was in terms of a continuous scale from 0 to 4.
6. Total General Point Average. This GPA included all grades on the Humacao and Río Piedras transcripts and involved the continuous scale from 0 to 4.
7. One or More Probations. Students at both Humacao and Río Piedras are placed on Academic Probation at the end of any fall or spring semester that they fall below a certain grade point average for the semester.
8. One or More Courses Dropped. Courses actually dropped during the regular semester after all registration had been completed.

9. One or More Departmental Changes. Official changes in Major or Department during the period of the study were recorded for each student of the sample group.
10. Termination Year. This variable is the official termination date for each student either at Humacao or at Río Piedras. Of the 331 students in the sample group, 146 students terminated at the end of the first or second year at Humacao. Of the 331 students, 185 actually did transfer to Río Piedras, 68 terminated and 117 were persisters.
11. Success. (2.00 grade point average or better at the end of the Spring of 1972, or Termination Year). Since an overall grade point average of at least 2.00 on a four point scale is required for graduation, or the awarding of a Bachelor Degree, this 2.00 was selected as the point of division for students who were listed as "successful" or as "unsuccessful".
12. Younger or Older. Students who enrolled at Humacao before they had reached their 18th birthday were classified as "younger" and students who were 18 or older upon their first entrance at Humacao were labeled "older".
13. Transfers. The 185 students of the sample group who actually transferred to and matriculated at Río Piedras Campus were given this label. This does not necessarily mean that at least some of the 146 students of the remaining group did not transfer and matriculate at other colleges in Puerto Rico, or in the States, or elsewhere.

CHAPTER IV

FINDINGS

This portion of the present study was mainly concerned with a description and analysis of the intercorrelations of the thirteen variables assessed for the 331 students included in the study. The complete table of intercorrelations is presented in the appendix. The variables were grouped in four tables preceding its analysis.

All factual information was collected from the official transcripts of the students in both institutions, Humacao Regional College for the transferred and non-transferred student and Rio Piedras University for the transferred student.

Success

Success is defined as graduation or grade point average of 2.00 or better at or before the end of the spring of 1972, or loss of contact year.

There was practically no relationship between sex and success ($-.01$). The very low relationship favored the female population. Although not exactly the same factor it should be pointed out that Morrissey (1970) found no reliable association between sex and persistence, in a comparison of persisters and drop outs.

Table I
Correlations of Variable Success

Variable	Correlation
<u>Success</u>	
Sex	-.01
College Board Entrance Test	.18
High School Academic Index	.15
Humacao G.P.A.	.68
Río Piedras G.P.A.	.49
Probation	.39
Courses Dropped	.08
Departamental Changes	.27
Termination Year	.48
Transfer	.43
Total G.P.A.	.73
Younger or Older	-.10

The correlation between the College Board Entrance Test and success was rather low (.18). The College Board Entrance test is one of the two factors used as criteria for college selection in Puerto Rico.

The low trend found in the former relationship is even lower (.15) between success and High School Academic Percentage. These are precisely the two factors that our public and private universities use as main entrance criteria.

One of the highest correlations in the study was found between success and the Humacao General Point Average (.68). This is consistent with the conclusion of Wesley Beals (1968) where community college achievement was found to be the best predictor of success.

The correlation between success and Rio Piedras General Point Average (.49) was not as high as with Humacao General Point Average, but was one of the highest in the study.

The correlation between success and probation (.39) was indicative that more people on probation were unsuccessful. On the other hand there was practically no correlation (.08) between courses dropped and success, and a low correlation (.27) with Departmental Changes, indicating more changes by the successful.

The correlation of success with Termination Year (.48) indicated that the later the termination year the more successful the student. This is critical when the correlation of .43 between success and transfer, which showed a trend for success for the

transferred student, is taken into consideration. It may be added that the difference between the correlations of success and Humacao General Point Average (.68), Río Piedras General Point Average (.49), and total General Point Average (.73) indicated that a group of successful students do not transfer.

There was a negative correlation of $-.10$ between success and age, that is the more successful students tend to be younger.

Transfer

The transfer factor had rather low correlations except for Humacao General Point Average (.40), Departmental changes (.53), Termination Year (.72), and Success (.43). The correlation with the High School Academic Percentile was almost nil (.08); nevertheless, it has been given a fifty percent weight as a college entrance selective factor.

Younger or Older

Factor age produced the lowest correlations of all the study. All except two are negative correlation with a range of .02 to .18, which are very low. Although very low the two highest correlations indicate a weak trend for students entering at ages 18 or higher to have lower High School and Humacao academic percentiles, and to have less success.

Table 2
Correlations of Variables Transfer,
Younger or Older, and Termination Year

Variable	Correlations
<u>Transfer</u>	
Humacao G.P.A.	.40
Departamental Changes	.53
Termination Year	.72
Success	.43
High School G.P.A.	.08
<u>Younger or Older</u>	
High School G.P.A.	-.18
Humacao G.P.A.	-.16
Success	-.10
<u>Termination Year</u>	
Total G.P.A.	.55
Humacao G.P.A.	.48
Departamental Changes	.37
Courses Dropped	.35

Termination Year

There were several areas where the Termination Year factor seemed to be relevant. A high termination year correlated positively with Total Grade Point Average (.55) and Humacao General Point Average (.48). The positive correlations with Departamental Changes (.37) and Drops (.35) may be explained in part by the time factor. The longer the student stays at the university, the more opportunity to make use of this alternative, but the factor of adroitness at quitting courses on time, and changing Departments whenever necessary is a situation that could not be ignored.

Departamental Changes

Correlations of factor Departamental Changes were very low except for transfer (.53). Nevertheless, one must take notice of positive correlations of one or more Departamental Changes with Total Grade Point Average (.25), Humacao grade point average (.26), and success (.27).

Courses Dropped

Factor courses dropped had very low correlation with all other factors, termination year being the highest with .35. We should consider that the longer the student stays at college, the more chances he has to drop at least one course. The negative correlation (-.30) with Río Piedras point average, indicated that less students drop

Table 3

Correlations of Variables Departamental Changes,
Courses Dropped, Probation, and Total G.P.A.

Variable	Correlation
<u>Departamental Changes</u>	
Transfer	.53
Total G.P.A.	.25
Humacao G.P.A.	.26
Success	.27
<u>Courses Dropped</u>	
Termination Year	.35
Río Piedras G.P.A.	-.30
Sex	.20
<u>Probation</u>	
Success	-.39
Sex	.01
<u>Total G.P.A.</u>	
Río Piedras G.P.A.	.83
Humacao G.P.A.	.96
Transfer	.46
Success	.73
Sex	-.03
Younger or Older (Age)	-.15
Courses Dropped	.05

after transfer, become course persisters even if they risk lower grades. The closer to graduation, the less profit he sees in using this option with those courses he has been postponing because of a low grade expectancy. Although correlation with sex was very low (.20) it tended to sustain the statements made by the comprehensive self-study of the Río Piedras Campus (1974) that at present "there is a trend where women constitute a larger number of the enrollment, fewer women students than men drop out, and consequently more women obtain degrees than men, and frequently with higher grades". (p.26)

Probation

One or more probatory periods correlated very low with all other factors, the highest being negative $-.39$ which indicated that more people on probation were unsuccessful. As expected all correlations were negative except sex where there is practically no correlation (.01) with a very low edge favoring females.

Total General Point

The two high correlations (.83, .96) with Río Piedras and Humacao point averages were rather spurious because both are part of the first. You will notice that Humacao is higher, a trend which is present all along the intercorrelations. The other correlations with Transfer (.46)

and Success (.73), indicated again that many successful students do quit before transfer. Notice that the relationship of this factor with sex (-.03), age (-.15), and courses dropped (.05) was practically meaningless but always inclining in favor of females and younger students.

Río Piedras Point Average

The highest correlation of Río Piedras Point Average was with Humacao Point Average (.53) if we ignore the spurious factor General Point Average (.83). The second highest was High School Academic Percentile with .30. It is interesting to note that this is the highest score of the later, which is really not a contributing factor in any of the areas covered by the study. Although very low correlations, females (-.16) and over 18 (.02) looked favorable. The negative correlations with courses dropped (-.30), probation (-.08), Departamental Changes (-.15), and transfer (-.14) although very low could not be ignored.

Humacao Point Average

Besides General Point Average (.73), Humacao Point Average (.68) was the highest single factor affecting success positively. Despite the relatively good correlation between Humacao and Río Piedras Point Average (.53) there was a curious relationship between Humacao-College

Table 4

Correlations of Variables Río Piedras G.P.A.,
Humacao G.P.A., High School G.P.A., and Sex

Variable		Correlation
Río Piedras G.P.A.	Humacao G.P.A.	.53
	General G.P.A.	.83
	High School G.P.A.	.30
	Sex	-.16
	Younger or Older	.02
	Courses Dropped	-.30
	Probation	-.08
	Departmental Changes	-.15
	Transfer	-.14
	College Board	.03
Humacao G.P.A.	Success	.68
	Río Piedras G.P.A.	.53
	College Board	.35
	Sex	-.03
	Younger or Older	-.16
High School G.P.A.	Río Piedras G.P.A.	.30
	Sex	-.29
Sex	High School G.P.A.	-.29
	Drops	.20

Board (.35), and Río Piedras-College Board (.03). It seemed that a group of students with good college boards and success stayed behind and did not transfer to Río Piedras.

Similar low correlations favoring females (-.03) and lower ages (-.16) as consistently appear in the study, were found in this area.

High School Academic Percentile

High School Percentile was one of the weakest factors in all the study. Its highest correlation (.30) was found in connection with Río Piedras General Point Average, and the second highest in the sex factor (-.29). The latter is the highest of the sex factor correlations, indicating that females tend to have higher High Schools averages and that it carries more weight after transfer. In addition it indicated that more successful females transfer and study at Río Piedras than males.

Sex

The effect of factor sex was very low on all factors of the study. The variables with the highest correlations were High School Academic Percentile (-.29) and drops (.20) which indicated that there was a low tendency by females to have a higher High School Academic Index, and for males to drop more courses.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The University of Puerto Rico

The post-secondary public education system in the island is the University of Puerto Rico. The University developed out of a normal school opened in Fajardo in 1900 for the training of public school teachers. The school was transferred to Rio Piedras in 1903. The Rio Piedras Campus became the largest of the four units in which it was divided by a federated university system as a result of a 1966 reorganization enacted by the Legislative Assembly of Puerto Rico.

The Humacao Regional College.

The first public junior college in Puerto Rico began operations in August 1962 at the city of Humacao with 267 students. At present it has close to 3,000 students and 150 faculty members. Its success prompted the establishment of an autonomous unit headed by a chancellor. New regional colleges were inaugurated in Arecibo (1967), Cayey (1967), Ponce (1970), Bayamon (1971), Aguadilla (1972), and Carolina (1973). Each college has a Director and Dean, who is an ex-officio member of the Administrative Board of the Administration of Regional Colleges. The College is headed by a Director, who is responsible to the Chancellor for all academic and administrative operations of the college.

Río Piedras Campus

The Río Piedras Campus is the second of the two units included in this study. It is by far the largest campus with an enrollment of 26,357 students. The Río Piedras Campus is presided over by a Chancellor, who is Chairman of the two main campus bodies, the Academic Senate, which has legislative power for academic norms, and the Administrative Board.

Humacao Regional College Follow-up Study

Considering the need for a systematic study of the public junior college in Puerto Rico, a fact finding survey of all full-time students working toward a bachelor's degree and registered for the fall of 1967 was done at Humacao. All transfer students (331) with prefixes 881 (General Studies - Day) and 820 (General Studies - Night) were included in the study. Their official transcripts for five consecutive years including the spring of 1972 served as the main source for basic data. A multiple correlation matrix was prepared for the following thirteen variables: (1) Sex, (2) College Board Percentage, (3) High School General Point Average, (4) Humacao College General Point Average, (5) Río Piedras Campus General Point Average, (6) Total General Point Average, (7) One or More Probations, (8) One or More Courses Dropped, (9) One or More Departamental Changes, (10) Termination Year (1 to 5), (11) Success (2.00 or better at the end of the Spring of 1972 or Termination Year), (12) Younger or Older (less than 18 - 18 or more), and (13) Transfers.

Conclusions and Recommendations

Conclusions

1. Correlations among variables studied were low,
2. For the students who did well, either at Humacao Regional College, or the University main campus, there was no consistent relationship with any of the variables studied.
3. The typical student with 2.0 or better academic index either at Humacao or Rio Piedras main campus may be described as follows: has a higher Humacao point average, has a higher Rio Piedras point average, stays longer at the University, transfers to Rio Piedras and was not on probation.
4. The criteria used to select students in the Fall of 1967 at Humacao Regional College had a very low correlation with academic success. High School point average and College Board percentile had a .15 and .18 correlation respectively with success.

Recommendations

1. Guidance services should be strengthened in both units so as to make the transition to the senior institution less cumbersome.
2. Incoming junior college students should be assigned to special advisors prepared to orient them in all academic matters related to transition problems.

3. Research on college achievement and related academic factors affecting the Regional College student may provide elements of judgement of more predictive value than the ones used in Puerto Rico for college admission.

4. Establishment of an introductory orientation course.

5. Establishment of a summer remedial and selective institute until the open door policy could be implemented.

6. Articulation between the community college and the university should be further developed.

7. There should be an on-going evaluation of the transfer process of junior college students.

8. The establishment of a Regional College Coordinator at the the university. This person should be responsible for developing a more efficient program of articulation for the two-year college transfer students.

B I B L I O G R A P H Y

BIBLIOGRAPHY

- American College Testing Program, Inc., An empirical report: The two year college and its students. Iowa City, Iowa: 1969.
- American Association of Junior Colleges, Conference proceedings: Establishing legal bases for community colleges. Washington, D.C.: 1962.
- Anton, G. F., Since the beginning of time: The history of the college of agriculture and mechanical arts. Office of information and publications, University of Puerto Rico, 1962.
- Beals, E. W., Academic characteristics and academic success patterns of community college transfer students at the University of Massachusetts. (Doctoral dissertation, University of Massachusetts) University Microfilms, 1968, No. 96-5188.
- Benner, T. E., Five years of foundation building: The university of Puerto Rico: 1924-1929. Río Piedras, Puerto Rico: University of Puerto Rico, 1965.
- Benítez, J., La universidad de Puerto Rico, 1903-1953, Río Piedras: Universidad de Puerto Rico, 1953.
- Benítez, J., La universidad de Puerto Rico: Río Piedras: Oficina de Información, 1960.
- Benítez, J., Junto a la torre. San Juan: Universidad de Puerto Rico, 1962.
- Benítez, J., La universidad del futuro. Río Piedras: Universidad de Puerto Rico. 1964.
- Blocker, C.E., Plummer, and Richardson, The two-year college: A social synthesis. New Jersey: Prentice Hall, 1972.
- Boscio, P.J., Estudio comparativo de los esquemas administrativos de los cuatro centros estudiantiles universitarios operando actualmente en Puerto Rico: Río Piedras, Puerto Rico, 1963.
- Cass, J. & Birhbaum, M., Comparative guide to two year colleges and four year specialized schools and programs. New York: Harper & Row, 1969.

- Carlson, W. S., The municipal university. New York: The Center for Applied Research in Education, Inc., 1965.
- Díaz de Vega, E., La enseñanza universitaria y su accesibilidad a las familias jornaleras de Puerto Rico. Río Piedras: Puerto Rico, 1945.
- Fields, R. R., The community college movement. New York: McGraw-Hill, 1962.
- Foxworth, C. L., Factors related to academic performance of students admitted to the Roswell Community College, 1958-1967. (Doctoral dissertation, The Louisiana State University and Agricultural and Mechanical College), University Microfilms, 1970, No. 71-6566.
- González, R. P., Los colegios regionales. El Buho, enero 1972, Vol. VI (6), Humacao, Puerto Rico.
- Guilford, J. P. and Frucher, B., Fundamental statistics in psychology and education. New York: McGraw-Hill, 1956.
- Hansen, L. W. & Weisbrod, B.A., Benefits, costs, and finance of public higher education. Chicago: Markham Publishing, Co., 1968.
- Heald, H., & Associates, The university of Puerto Rico: its present and future development: A report to the Council of higher education. New York, 1967.
- Hernández, R., et al, Río Piedras Campus, U.P.R.: self study. Río Piedras, P.R.: University Press, 1974.
- Honore de Cuebas, L., Estudio sobre asistencia económica para alumnos de la Universidad de Puerto Rico que han estado recibiendo asistencia económica conjuntamente con matrícula de honor durante el primer semestre lectivo 1956-57 en las facultades de Río Piedras. Universidad de Puerto Rico, 1957.
- Hostrop, R. W., Teaching and the community college library. Handen, Connecticut: The Shoe String Press, 1968.
- Johnson, L. B., Starting a community junior college. Washington, D.C., American Association of Junior Colleges, 1964.
- King, M. W., An appraisal of the educational program of Columbia Basin College by a selected sample of non-transfer students. (Doctoral dissertation, Washington State University), University Microfilms, 1970, No. 71-4406.

- Koos, L. V., The junior college. Minneapolis, Minnesota: 1924, (Vol. I).
- Koos, L. V., The junior college movement: Westport, Connecticut: Greenwood Press, 1970.
- Liebman, A., The politics of puertorican university students. Austin, Texas: University of Texas Press, 1970.
- Manges, R. J., An investigation of the academic performance of the regional campus students relative to students on the main campus of Purdue University. (Doctoral dissertation, Purdue University), University Microfilms, 1966, No. 67-5465.
- Martínez, J. L., et all, Mayaguez Campus self study. Mayaguez, Puerto Rico: University Press, 1974.
- Medsker, L. L., The junior college: Progress and prospect. New York: McGraw-Hill, Company, 1960.
- Montalvo-Vega, D., Administración del Programa de préstamos federales en las universidades de Puerto Rico. Río Piedras, Puerto Rico: 1966.
- Moore, W., Jr., Against the odds. San Francisco: Jossey Bass, Inc., 1970.
- Nieves-Falcón, L., Recruitment to higher education in Puerto Rico, 1940-60. Río Piedras, Puerto Rico: Editorial Universitaria, Universidad de Puerto Rico, 1966.
- O'Banion, T., and Thurston, A., Student development programs in the community junior college. New Jersey: Prentice-Hall, 1972.
- O'Connell, T. E., Community colleges - a president's view. Chicago: University of Illinois Press, 1968.
- Pagán de Cortes, A. I., Estudiantes de primer año de estudios universitarios con matrícula de honor... en la Universidad de Puerto Rico en Río Piedras por factores que pudieron estar relacionados con la pérdida de la matrícula de honor durante el año académico 1962-63. Río Piedras, Puerto Rico, 1964.
- Ramírez-López, R., A comparative study of the values of teachers, students of education, and other university students in Puerto Rico, Austin, Texas, 1957.
- Reynolds, J. W., The comprehensive junior college curriculum. Berkeley, California: McCutchan Publishing Corporation, 1969.

- Richardson, R. C., Blocker, and Bender, Governance for the two-year college. New Jersey: Prentice Hall, 1972.
- Rivera, A., La influencia que ejerce la universidad sobre los valores de los estudiantes. Río Piedras, Puerto Rico: Extramuros, año 1, núm. 1, noviembre 1967, p. 87-93.
- Salisbury, H. R., The development of the community junior college image in the United States from 1937 to 1967. (Doctoral dissertation, Washington State University) University Microfilms, 1969, No. 70-1076.
- Smith, P. H., Local government and the community college: A case study. (Doctoral dissertation, Columbia University) University Microfilms, 1970, No. 70-26,805.
- Steininger, E., et all, Humacao Regional College self study. Humacao, Puerto Rico: College Press, 1974.
- Stillerman, M., The identification and preventive treatment of potential low academic achievers and academic dropouts in electrical and mechanical technology at a community college. (Doctoral dissertation, New York University) University Microfilms, 1970, No. 70-26451.
- Thompson, D. N., The impact of a university on selected personality measures of transfer students from two-year colleges. (Doctoral dissertation, State University of New York at Albany) University Microfilms, 1970, No. 71-26,795.
- Thornton, J. W., Jr., The community junior college. New York: John Wiley & Sons, 1960.
- Velázquez, G., et all, Cayey University College self study. Cayey, Puerto Rico: College Press, 1974.
- Wheeler, H. R., The community college library a plan for action. Handen, Connecticut: The Shoe String Press, 1965.

A P P E N D I X

CORRELATION MATRIX SHOWING INTERCORRELATIONS
AMONG THIRTEEN VARIABLES
FOR SAMPLE GROUP

<u>Variable Number</u>		1	2	3	4	5	6	7	8	9	10	11
<u>No.</u>	<u>Name</u>											
1	Sex	1.000										
2	College Board	.029	1.000									
3	H.S. Academic %	-.295	.221	1.000								
4	Humacao GPA	-.034	.348	.259	1.000							
5	Río Piedras GPA	-.156	.027	.296	.528	1.000						
6	Total GPA	-.026	.297	.244	.963	.826	1.000					
7	Probation	.006	-.122	-.080	-.197	-.077	-.208	1.000				
8	Courses Dropped	.202	.030	-.015	.024	-.299	.006	.050	1.000			
9	Dept Changes	-.056	.204	.096	.256	-.149	.254	-.174	.089	1.000		
10	Year Terminated	.074	.049	-.012	.485	.080	.546	-.076	.348	.368	1.000	
11	Success	-.009	.179	.154	.682	.488	.731	-.393	.083	.273	.481	1.000
12	Younger or Older	.150	-.048	-.184	-.163	.018	-.149	-.002	-.031	-.137	-.087	-.100
13	Transfer	.054	.191	.076	.398	-.143	.456	-.250	.181	.531	.717	.430

NUMBER OF STUDENTS FOR EACH INTERCORRELATION

<u>Variable Number</u>		1	2	3	4	5	6	7	8	9	10	11
<u>No.</u>	<u>Name</u>											
1	Sex	331.										
2	College Board	331.	331.									
3	H.S. Academic %	331.	331.	331.								
4	Humacao GPA	331.	331.	331.	331.							
5	Río Piedras GPA	185.	185.	185.	185.	185.						
6	Total GPA	331.	331.	331.	331.	185.	331.					
7	Probation	330.	330.	330.	330.	185.	330.	330.				
8	Courses Dropped	331.	331.	331.	331.	185.	331.	330.	331.			
9	Dept Changes	331.	331.	331.	331.	185.	331.	330.	331.	331.		
10	Year Terminated	331.	331.	331.	331.	185.	331.	330.	331.	331.	331.	
11	Success	330.	330.	330.	330.	184.	330.	329.	330.	330.	330.	330.
12	Younger or Older	331.	331.	331.	331.	185.	331.	330.	331.	331.	331.	330.
13	Transfers	331.	331.	331.	331.	185.	331.	330.	331.	331.	331.	330.