DOCUMENT RESUME

ED 073 118 SP 006 270

AUTHOR	Di Lorenzo, Louis T.
TITLE	Training and Development Programs for Educational Research Personnel for School Service. Final Report.
INSTITUTION	New York State Education Dept., Albany. Div. of Evaluation.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C. Bur. of Higher Education Research.
BUREAU NO	BR-6-2705
PUB DATE	Jun 72
GRANT	OEG-0-8-062705-3738(010)
NOTE	110p.
EDRS PRICE	MF-$0.65 HC-$6.58
DESCRIPTORS	Educational Coordination; Educational Innovation; Educational Objectives; *Educational Research; *Program Development; *Research Projects; *School Personnel; *Teacher Educator Education

ABSTRACT

This paper evaluated a 2-year, 60 credit program which prepared educators for research positions within the public schools. Directed by the New York State Department of Education, ten New York state universities participated in the program. Following a brief introduction, the program design and recruitment procedures were discussed. Emphasis was placed on the areas of statistics, psychometrics, design, reporting, interpreting and constructive use of findings. The program design was: (a) course work in research methodology, statistics, measurement, and psychology; (b) research demonstration practicum; (c) field experience; (d) a 1-year public school internship. The results and effectiveness of the program were discussed, stressing the positive reaction of university directors and participants. Some conclusions drawn from the evaluation were: (a) the methods used in the program were successful; (b) graduates were able to use their skills in public school environments and other educational situations; (c) placement of graduates was possible without the aid of a special state certification. Recommendations included: (a) improvement of statewide seminars; (b) more emphasis on field work with possible orientation of certain program phases toward doctoral work. Nine tables and five figures of data were presented in the text. A 43-page appendix contained required courses, summaries of internship experiences, current employment of graduates, a graduate questionnaire on attitudes and employment, and professional achievement of graduates. (BRB)

Final Report
Project No. 6-2705
Grant No. OEG-0-8062705-3738(010)

TRAINING AND DEVELOPMENT PROGRAMS FOR EDUCATIONAL RESEARCH PERSONNEL FOR SCHOOL SERVICE

Louis T. Di Lorenzo, Project Director

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Office of Research and Evaluation
Division of Evaluation
Albany, New York 12224

June 1972

The research reported herein was performed persuant to a grant with the Office of Education, U. S. Department of Health, Education, and Welfare. Contracts undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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FOREWORD

The local school, according to the creators of the program herein described, is "where research is applied." In order to determine if a particular school's program in or out of the classroom is effective or if a particular individual is, indeed, learning, proper research methods must be used and true evaluation must take place.

The final report of the Program tells the story of the first Research Training Program to be cooperatively sponsored and operated by the New York State Education Department and various New York State institutions of higher learning. The pioneering program, outlined in detail in the following pages, was initiated under Public Law 83-531, Section 2(b), as amended by Public Law 89-10, Title IV.

Louis T. Di Lorenzo of the Education Department, the program's director, was assisted by two associate directors - William McLoughlin in 1967-68 and Thomas Gould in 1968-69. Leo D. Doherty, Chief of the Bureau of Urban and Community Programs Evaluation, assumed program direction from 1970 to 1972.

Program directors in cooperating universities were:

Paul Cullinan, New York University; David Fox, City College, The City University of New York; Elizabeth Hagen and Marvin Sontag, Teachers College of Columbia University; Esin Kaya, Hofstra University; Donald Meyer, Syracuse University; William McLoughlin, St. John's University; James Mitchell, University of Rochester; Donald Nasca, State University College at Brockport; Reuben Rusch and John Rosenbach, State University of New York at Albany; and John Skalski, Fordham University.

Alan G. Robertson, Director of the Division of Evaluation and staff members of the Office of Research and Evaluation were involved in planning during the course of the program. Members of the Northeastern Educational Research Association participated in meetings related to the program. Richard Borell, Joseph Foreman, Mary Horan, and David MacNulty worked on organizing and assembling material for the report.

Preparation and writing of the final report was administered by John H. Rosenbach, assisted by Robert B. Iadeluca and Loran Twyford.

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I. INTRODUCTION

In 1966, a premise was drawn by the New York State Education Department that to help improve public school instruction through research, it must be conducted in the schools themselves by local personnel with special research training and a practical orientation. At the time, positions for such personnel existed formally only in the large urban districts; in many other districts, the majority of research workers were not trained, but "drifted" into their positions.

The premise above was based on prior research showing that in only a minimum of cases were university laboratory findings transferred to the public school setting.

A Program for Training Educational Research Personnel for School Service was set up effective July 1, 1966, conducted cooperatively by the Department and selected New York State higher education institutions, and financed by 5 grants which totaled $1,432,284. From these grants $1,348,104 was expended.[1]

The overall goal: To prepare educators to fill research positions within the public schools.

Specific duties of the public school researchers were listed as follows:

1. Examine the continuing educational process so that problems hindering the reaching of objectives might be located and identified.
2. Review research findings which might lead to solutions.

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[1] Unexpended balances not included in reawards; total includes present encumbrances.

3. Suggest possible solutions to these local problems.

4. Examine current and new educational programs through the use of experiments and research studies.

5. Develop evaluative measures of educational objectives.

6. Evaluate teaching/learning materials.

7. Use testing by: conducting surveys, instructing teachers in administering and scoring, analyzing and interpreting results, and preparing reports.

8. Work with curriculum and evaluation committees.

9. Conduct research inservice training.

10. Cooperate with all interested and related agencies.

11. Collect, record, and analyze required educational statistics.

The means for arriving at the overall goal: Providing the educator with competency in areas of statistics, psychometrics, design, reporting, interpreting, and constructive use of the findings.

The program, to achieve this, included:

a. Course work in research methodology, statistics, measurement, and psychology.

b. A research demonstration practicum.

c. Field experience.

d. A 1-year public school internship.

Three years of teaching experience were required of each candidate, enabling him to better put into practice knowledge gained in the program.

II. PROGRAM DESIGN AND RECRUITMENT PROCEDURES

A. Duties of State and University Directors

On the State level, the director was responsible for:

The establishment and maintenance of communication among units of the State Education Department, public schools, universities, and agencies on all levels.

Consultation and advisory service.

Review and approval of program reports.

Dissemination of these reports.

Conducting regional seminars on problems of educational research.

Recruitment supervision and screening of candidates.

Arrangement of field experiences and internships.

Conducting meetings.

Department representation at related conferences.

On the university level, the director was responsible for:

Screening and acceptance of applicants.

Transmission of required forms.

Student advisement.

Supervision of field experiences.

Approval and monitoring of internships.

Coordination of the student's formal, university-based training with his practical off-campus training.

B. Recruitment

Descriptive materials, including posters and brochures, were distributed to elementary and secondary school principals, as well as to college and

university facilities. Administrators on all levels were asked to recommend individuals previously indicating an interest in school research.

C. Selection Criteria

Trainees were cooperatively selected by the State Education Department and the universities, using the following criteria:

1. Completion of at least 3 years of elementary or secondary level teaching experience.
2. Completion of no more than 12 hours in the required courses of the program.
3. Graduate study admissions criteria of the particular institution.

Starting in 1968, trainees were required, in addition to submitting a written application (see Appendix A), to be interviewed by the State director. Such screening helped to determine the candidate's understanding of the program rationale and his intention of working in an elementary or secondary school setting upon program completion.

D. Structure and Organization

The 2-year, 60-hour program consisted of three major components (model outline in table 1, institutional outlines in appendix B).

Table 1

MODEL RESEARCH TRAINING PROGRAM

Field	Credits	Required Courses and Field Experience	Credits
Principles, Methods, and Materials of Educational Research	9-15	Methods and Principles of Educational Research	3
		Educational Research Problems	3
		Research Dissemination Practicum	3

Table 1 (Cont'd.)

Field	Credits	Required Courses and Field Experience	Credits
Statistics	9-15	Descriptive Statistics	3
		Statistical Inference	3
		Experimental Design	3
Computers	3	Electronic Data Processing	3
Educational and Psychological Measurement	9-15	Principles and Theory of Measurement	3
		Test Construction	3
		Diagnostic Testing	3
Psychology	3-6	Psychology of Learning	3
Research in Substantive Areas	3-12	Student Choice-Research in Curriculum, Administration, Psychology, Guidance, Special Education, Sociology, and/or Economics	3
Field Work and Internship	12-14	Assistantship-First Year Skill development. One full day per week or equivalent to be spent in appropriate field placement. Minimum-30 days in academic year.	2-3
		Summer Field Work Further skill development or early assignment to internship. Maximum-30 full days.	2-3
		Internship-Second Year Supervised experience in school research 3 full days per week throughout school year or a total of 120 days.	8

	Credits
Required Course Work	36
Electives	10-12
Field Experience	12-14
Total	60

1. Course Work

First academic year: In addition to those courses listed, a seminar on Educational Research Problems was offered by the State director at one upstate location and in the New York City area. Providing cohesion among the several university programs, it brought the trainees together on a regional basis to examine contemporary school problems, research studies underway, and the unique characteristics of school research. Regional personnel of national prominence were invited to address these seminars.

Second academic year: Courses were offered in research dissemination, and in research in substantive areas; e.g. curriculum, administration, or special education. The latter, along with the 10-12 elective credit offering, was to provide flexibility within [illegible] and to further development of individual interests and specialities.

2. Field Experience

During the first year, from 30 to 45 days (see table 2) were spent developing basic research skills, with the assignment changing during the year according to needs.

Table 2

Suggested First Year Field Experience Activities

Supervised Activity	Minimum Days
1. Developing a test, constructing behavioral statements of educational objectives, writing and reviewing test items, running an item analysis.	5
2. Administering group tests and scoring a sample of tests.	3
3. Observing the administration of individualized tests.	3
4. Developing forms for the collection of data and conducting interviews.	4
5. Processing data manually and setting up data for electronic data processing.	3
6. Observing the use and operation of a number of automatic data processing machines.	3
7. Preparing tables, charts, slides, and other audiovisuals for the reporting of data and findings.	5
8. Performing statistical computations.	4

3. Internship

This took place the second year, emphasizing in-depth application of skills as an extension of the field experience. Its purpose was to develop interrelationships of these skills, with the intern spending three days a week throughout the school year (a total of 120 days) on a few major school-based studies. The trainee was encouraged to assume increasing responsibility.

An advisory committee composed of university, public school, and cooperating agency representatives reviewed possible internship assignments. Selection criteria included:

a. Nature and scope of study.

b. Research activities planned for intern year.

c. Qualifications of project director.

d. Amount of time project director directed to study, plus his general availability for supervision.

During the first 2 years of the program, the committee reviewed ongoing studies to locate those with maximum potential for interns in the following years. Locations were difficult to secure at the outset. As the program became known through questionnaires sent to local districts, boards of cooperative educational services, and educational and private institutions, requests for interns were received from project directors. Depending on geographical locations and number of trainees, possibilities increased for offering interns their choice of positions.

Some internships became self-producing. A student would be placed in an internship and, upon program completion, become a staff member of the agency. At times, he would become supervisor of an intern placed in his former position (appendix F).

In most cases, intern supervision was shared between the project director and a university faculty member, with the director having a day-to-day relationship. It was suggested that the faculty member meet with the director and intern at least biweekly to evaluate progress, strengths, and weaknesses, and to plan activities. These visitations actually happened approximately bimonthly. In some cases, where the research project director was a university faculty member, the intern had only the one supervisor.

III. IMPLEMENTATION OF THE PROGRAM

A. State Level Administration

Louis T. Di Lorenzo of the Office of Research and Evaluation, New York State Education Department directed the program on the state level. Professional and clerical personnel from this office made constant contributions.

William McLoughlin was appointed associate director during the program's second year. His duties included (1) assisting second-year trainees in finding on-the-job experience opportunities and supervision, and (2) assisting in establishing a new cycle of first-year trainees. Thomas Gould, a graduate of the program at Teachers College, succeeded McLoughlin in July 1968 for a 1-year period. In 1970 Mary Horan, a full-time research consultant, was hired.

Regional seminars, carried by the trainees as a course in Education Research Problems, were given semimonthly at four different locations by the director and/or the associate director. In the New York City area, meeting places were rotated among the participating universities. Upstate, the seminars met at Rochester or Syracuse (1966-67), Syracuse (1967-68), State University College at Brockport (1968-71), and State University at Albany.

Each seminar lasted 4 hours. Staff lecturers alternated with guest speakers, the latter including Robert Havighurst, University of Chicago; Ellis Page, University of Connecticut; Robel Ebel, Michigan State University; David Ausubel, Ontario Institute for Studies in Education;

Philip Phenix, Teachers College, Columbia University; and Frederick Davis, University of Pennsylvania.

Also John Flanagan, American Institute for Research; Donald Bitzer, University of Illinois; Clarence Spain, Schenectady (N.Y.) Public Schools; Daniel Stuffelbeam, Ohio State University; and John Stiglmeier, New York State Education Department. Speakers were available at all sites. All program participants were invited. Local educational researchers and recent program graduates occasionally participated in the seminars.

A selected group of educational research specialists representing universities, school districts, boards of cooperative educational services, and various divisions of the State Education Department had, in previous years, made preparations for establishing a State Certificate for Specialists in Educational Research. Noting that the field of educational research parallels that of guidance counseling and school psychology, the group suggested that a similar certificate be created. It was assumed that establishment of state certification requirements would lead to the development of training programs at various higher education institutions.

In the early sixties, this group drafted suggested certification requirements. They were reviewed by research personnel at the 1964 AERA convention and accepted with a generally positive reaction. They were also submitted to Ewald B. Nyquist, then New York State Deputy Commissioner of Education (correspondence from L. Di Lorenzo, 7/6/64), and other Department personnel.

No action was taken by the Department. Certification procedures were being revised at that time and action on research certification was delayed. Di Lorenzo, who was involved in drafting the proposed requirements, saw in Title IV legislation an opportunity to translate tha goals

of the draft into an education program supportable by Federal funds. The result was the Research Training Program, funded in July 1966.

In the original proposal, it was stated that:

> ...the State Education Department will be encouraging local school systems to establish new positions for Directors of Research for which those completing the training program would qualify. This will be done partly through establishment of the certificate for specialist in education (CRP #6-2705,p. 8).

Until 1970, brochures describing the program included the statement "Candidates completing the program will be eligible for the New York State Certificate of Director of Educational Research which is to become effective in September 1969."

Correspondence verifies the extended effort to establish unique certification which failed to evolve. School researchers in New York State fell into two categories already covered by existing regulations (Article XV of the Regulations of the Commissioner of Education). The first category authorized positions for educational researchers in supplementary services. The only certificate required was a valid teaching certificate (section 1496). If more than 25 percent of the researcher's time entailed administrative duties, the second category, that of school administration or supervision, would apply, authorizing an administrative certificate under section 119-- one which could be entitled director of research.

Thus, in the view of the Bureau of Teacher Certification, there was no need to establish unique certification requirements for educational researchers (William Boyd, Chief, Bureau of Teacher Certification, in correspondence with John Rosenbach, SUNY-Albany, 6/13/70).

For some trainees, the State's not establishing a unique certificate for research was a severe disappointment; but given the limited number of schools employing researchers, lack of such certificates is of questionable significance,especially since the position can be recognized another way.

B. University Level Participation

Ten universities, at various periods, participated in the Research Training Program. The periods of operation for each university are shown in figure 1 along with the number of trainees involved. Cooperating institutions were The University of Rochester; New York University; Syracuse University; Teachers College, Columbia University; Fordham University; St. John's University; State University of New York at Albany; Hofstra University; City College, The City University of New York; and State University College at Brockport.

The first class of trainees began studies at seven universities in September 1966. Three of the ten original universities, although they had representatives helping to plan the project, decided not to participate. They were Cornell University, Queens College of the City University of New York, and State University of New York at Buffalo. Replacing them in September 1967 was Hofstra University and, in September 1969, State University College at Brockport and City College of The City University of New York.

In appendix B are presented the educational programs of each of the universities. The names of the participating students are listed in appendix H. The initial program grant ran from July 1966 through August 1969. Two continuation grants were received: (1) September 1969 through August 1970 and (2) September 1970 through August 1971. The latter was extended through June 1972.

Rochester	4(4)	4(0)			
New York University	2(2)	8(6)*	1(0)		
Syracuse	2(2)	4(2)	1(0)		
Teachers College, Columbia	4(4)	9(5)	7(3)	3(1)	
Fordham	6(6)	9(5)	7(3)	5(2)	1(0)
St. John's	2(2)	4(2)**	5(5)	9(5)	2(0)
SUNY, at Albany	6(6)	6(2)	6(4)	9(5)	3(2)
Hofstra		9(9)	8(1)	5(3)	3(0)
CUNY			5(5)	5(2)	2(0)
SUC, Brockport			7(7)	12(6)	8(4)
Total Number of Students per year	26	53	47	49	21
	1966-67	1967-68	1968-69	1969-70	1970-71

Key: Number of first-year trainees in parentheses
Phase out year underlined

* one second-year student transferred from Fordham
**one second-year student transferred from NYU

Figure 1

UNIVERSITIES PARTICIPATING IN THE PROGRAM

Several universities withdrew from the program prior to its completion. Rochester admitted no new trainees after 1966, and was no longer involved after June 1968. The University of Rochester said that the program cost the university $3,950 per trainee per year, yet it received only $2,000. In 1969, two more institutions withdrew - New York University and Syracuse. Neither had admitted new applicants after September 1968. An officer of New York University cited the comparatively high cost of the program for such a small number of participants, stating that "without a minimum of 10 to 12 students, it is nearly impossible to provide even a minimum of quality standards." No reason for Syracuse University's withdrawal was given.

In September 1969, Teachers College, Columbia University, admitted only one student who, later in the year, left the program. Teachers College had no program during 1970-71, the last year of funding. Although no official reason was given for the program s phase out, an official referred to the problems of recruiting high-quality candidates and the necessary "intimate" supervision of internships.

The reasons given for the withdrawal of three of the original universities are also of interest, especially in relation to the responses of university directors from the participating institutions (see Section IV,C, below).

Queens College, The City University of New York stated that the main stumbling block to CUNY's participation was the "assignment of 12-14 credits for field experience." A shortage of applicants also contributed to its withdrawal.

Cornell University described the situation regarding trainee applicants to Cornell in the summer of 1966:

> So far, we have had 45 inquiries, of which only three are following up. The facts that the training program is so rigid and that trainees must also meet degree requirements (at Cornell) ...may be the reason for the low follow-up rate. None of the three who have expressed interest (the second time around) has completed the necessary application materials to be acted upon by the Cornell Graduate School.

Apparently no applicants met all the state's or university's requirements, as no trainee entered the program at Cornell. Interest waned and no further effort was made to attract candidates.

The only university to withdraw from the program even before effort was made to attract applicants was SUNY at Buffalo. An official criticized several program details, and his comments regarding overall objectives are particularly relevant to the current (1971) employment opportunities of program graduates:

> I am not sure that the idea of placing a rather well-trained technologist in the methods of research is ideally the best way to attack the problem of research in the schools. I am sure that in the long run a better approach would be to persuade the people (college instructors) in the various professional areas, e.g. curriculum, student personnel, to produce research-oriented and at least somewhat research-methods-competent people (e.g. curriculum supervisors, guidance counselors). At the time when these people (e.g. newly trained curriculum supervisors, guidance counselors) were in the school,

> I believe that the availability of a high-level technician could make a great contribution by facilitating their work. On the other hand, placing him there now seems a little risky, as he may just blunder around and get everybody mad at research.

In summary, institutions active at the end of funding (8/71) were three of the original seven (Fordham, St. John's, and SUNY-Albany), and three which entered later (Hofstra, 9/67; City College, 9/68; and SUC-Brockport, 9/68), with Brockport continuing the program in 1971-72.

C. Trainee Participation

In the original proposal, the projected number of new trainees for the September, 1966 - June 1969 period, was 50 per year (CRP No. 6-2705, p. 8), or a total of 100 active students after the first year. In 1969 (Continuation of Contract No. OEG-0-8062705-3638(010), June 1, 1969) and in 1970 (same as previous, September 1, 1970), only a total of 50 traineeships in any one year were requested. In table 3, a summary of the proposed number of traineeships for each year and the actual number of participants is given. The attrition of a typical class through the second year to graduation is indicated by arrows. The ratio between the proposed figures and those funded is approximately 2:1 for all periods except 1969-70. An explanation of this discrepancy follows.

The U. S. Office of Education approved the initial proposal in June 1966, approximately 2 months before the first group of students were to begin studies. The participating universities, therefore, found recruiting candidates difficult. Three of the original ten universities withdrew, in part, because of failure to attract candidates. Thus, only 26 students were enrolled.

Table 3

Proposed and Actual Number of Traineeships Per Year

	1966-67		1967-68		1968-69		1969-70		1970-71	
	Prop.	Act.	Prop.	Act.	Prop.	Act.	Prop.	Act.	Prop.	Act.
First Year	50	26	50	31	40	28	20	24	25	6
Second Year	--	--	50	22	50	19	30	25	25	15
Total Enrollment	50	26	100	53	100	47	50	49	50	21
No. of Graduates	--	--	50	20	50	19	30	25	25	13
Percent Graduating				77%		61%		89%		54%

An attempt was made to increase the number through further enrollment in January 1967, but the U.S.O.E. provided funds for a total of only 50 trainees in subsequent years. A total of 53 trainees (31 first-year and 22 second-year) participated, therefore, in 1967-68. Total enrollment in 1968 was 47; in 1969-70, it was 49. A request for contract continuation was written in 1969, but only 20 new traineeships and 30 second-year traineeships were proposed. The U.S.O.E. granted one-half of this request and approved 21 new positions. Furthermore, five of eight trainees who left the program during the 1969-71 cycle were asked to do so after two or more semesters of participation.

Following the arrows in table 3 will show the progress of trainees through the program. For example, of 26 enrolled in 1966, 22 entered the second year, and 20 graduated in 1968. Continuation into the second year by a trainee indicated probable program completion.

D. Expenditures

Stipends and dependents allowances helped to support 10. trainees for up to 2 years each between September 1966 and June 1971. In addition. participating universities received funds to defray cost of tuition, equipment, instructors' salaries, and administration. The institutional allowance was a fixed sum per trainee per year, based on the university's designation as a private or state-supported institution.

In table 4 is shown the amount paid to each university for allowance and student subsistence. The average contractual cost per student for the 2-year training period was $9,870; the cost per graduate (77) was approximately $13,600.

The total of the grants for the Research Training Program by the United States Office of Education for the 5-year period starting in July 1966 was $1,432,284 of which $1,348,104 was expended. Of the total expended, as of August 11, 1972, $1,162,036 was used for contract and institutional support.[1] The remainder, approximately $186,068,was used for State Education Department administrative staff salaries, evaluation, report writing and printing, supplies, materials, and travel expenses. Outstanding encumbrances at the time of writing this summary report are in the amount of $2,825.90 and are included in the above approximated total expenditure of $1,348,104 and in the State administration amounts.

The unspent unencumbered balance of the last of the five grant awards, extended to June 30, 1972, amounts to $6,430.28. The total unspent unencumbered amount from the five awards over the 6-year extended contract period is approximately $84,000.[2]

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[1] Includes blanket contractual charges posted since the listing of institutional expenditures shown in table 4, p. 19.

[2] Thus the $84,000 includes reawards from one contract to the next.

Table 4

Amounts Expended for Institutional Allowance
and Student Support for Each University
as of March 31, 1972

	Institutional Allowance	Student Subsistence	Total
City College, CUNY	$ 26,000.00	$ 51,327.00	$ 77,327.00
Fordham University	65,000.00	91,483.62	156,483.62
Hofstra University	49,958.33	82,100.17	132,058.50
New York University	22,242.00	36,070.00	58,312.00
St. John's University	45,000.00	61,100.00	106,100.00
SUC at Brockport	48,800.00	84,670.00	133,470.00
SUNY at Albany	59,000.00	90,100.00	149,100.00
Syracuse University	18,000.00	28,475.05	46,475.05
Teachers College, Col. Univ.	55,500.00	78,440.78	133,940.78
University of Rochester	18,000.00	35,900.00	53,900.00
Total	$407,500.33	$639,666.62	$1,047,166.95[1]

1. Additional charges posted after March 31, 1972.
See page 18, paragraph 3, for total.

IV. PROGRAM RESULTS AND EFFECTIVENESS

A. Total Enrollment

Four classes completed a 2 -year cycle throughout the 5-year program with 107 formal enrollments and 77 (72%) graduations. Characteristics of graduates are compared in table 5 with those who failed to complete the program. In general, graduates tended to be somewhat younger, more likely to be married, and to have more children. In addition, 79 percent of males who initially enrolled were graduated, whereas only 56 percent of the females completed the program.

Table 5

Demographic Data on All Trainees in the Research Training Program 1966-1969

	Total N = 107	Graduates N = 77	Non-Graduates n = 30
Mean Age	33.5	32.9	35.2
Mean Years Teaching	7.2	6.9	8.1
Percent Single	17	13	27
Dependent Children per Married Trainee	1.9	2.3	1.5
Percent Female	30	23	47
Percent Single Female	13	10	27

B. Trainees 1970-72

Eight trainees, not included elsewhere in this report, entered the program in 1970. Summary data on these trainees are given in appendix E

The Research Training Program was continued at SUC-Brockport under the direction of Louis T. Di Lorenzo who was on leave of

absence from the State Education Department. Partial financial support is being received through the State Education Department.

Two trainees, aware of the imminent close of Federal funding, entered the program in 1970 at SUNY-Albany for 1 year. One is now completing the program through part-time study while the other transferred to the doctoral program in educational psychology.

C. Reports of University Directors

In November 1971, each of the 10 former university program directors was asked to assess the program now completed. Responses were received from 7 with reactions showing agreement in some areas and variations in others. Eight major areas for which assessments were asked and a sampling of reactions received are here listed:

1. Admission of candidates, including qualifications and methods of selection.

Candidates had to meet two sets of admission criteria -- those at the State level and those of the respective universities. The State Education Department required 3 years of teaching experience. At the university level, the criteria were varied, including such items as academic record, Miller Analogy scores, and Graduate Record Examination scores. At both levels, recommendations and personal interviews were used.

Regarding a possible difference between research training program participants and graduate students in doctoral programs, some of the comments received were:

> "Not many of the candidates who actually submitted applications... had outstanding academic records."

> "Same as for M.Ed. students."

"In general, the candidates selected turned out to be energetic, capable, and interested in research. ...the average aptitude score of those admitted to the program was somewhat below those of Ph.D. candidates."

2. Purpose of the program.

All respondents agreed with the original premise that the program's studies should be oriented toward public school needs with an emphasis on a research demonstration practicum. In only one university did the director report the students and instructional staff being unclear about the purpose of the program. The institution later withdrew.

3. Suitability of academic courses.

The majority of institutions felt their courses to be relevant to the program.

"The program was administered within the Department of Educational Psychology, which is one of the largest in the northeast...it is our conviction that the coursework available to the trainees was highly appropriate."

"The courses we provided were suitable."

"A strong public administration program has been supplemented by newly developed technical courses in research and statistical analysis."

"Suitability of courses: Excellent -- we chose them."

"I believe the typical diet of courses in the program did not fully satisfy the needs of school-based researchers. I, personally,believe the types of research, measurement, and statistical skills we teach in college are designed for 'classical research situations.' What is needed in school evaluation falls considerably short of this model. Courses more in keeping with what one finds in school evaluation are needed."

4. Judgments of participants' achievements in the program.

The majority of respondents were satisfied with the trainees' growth during the program. Specific comments ranged from "adequate" to "well above average in ability and maturity and in response to the program."

Some university representatives said that program effectiveness would be best judged in terms of subsequent employment.

5. Placement of participants in program-related employment.

The majority of the program graduates, even those who returned to classroom teaching, are using their training in some aspects of their work (see table 6, below). Research positions in many schools were not available, and some of the trainees either returned to their former responsibilities or continued their graduate education.

Three of the seven respondents described extreme difficulty in finding appropriate positions for trainees. Definition of success depended upon the interpretation of the term, "program-related employment."

6. Program's effect on curriculum or administrative change.

Those higher education institutions with well-developed programs in educational research changed little. One developed a master's program in educational research. Others developed new courses to accommodate the Research Training Program, these courses coinciding with a growth of specific departments at each university.

7. Suggestions for improved program operation.

Improvement ideas fall into three categories, with numerous suggestions being given as shown below.

a. Overall goals of the program:

"The willingness of the cooperating institutions to accept the goals of the program must be clearly established."

"The program might have benefited from better communication among the participating institutions."

b. Administrative problems:

"From our point of view, the admission of candidates and their ultimate selection of the college of choice came too late in the academic year for most efficient selection. We were faced with the need to accept applicants simply to have a viable program continuing."

"Probably the greatest administrative difficulty we encountered centered around the uncertainty of the number of traineeships available for each year and the lateness of applications. From our vantage point, it would have been helpful to have received applications in the early spring and also to have known more precisely how many trainees we could accept."

"Confused and often conflicting selection procedures."

c. Coursework:

Some directors reported that the internship features of the program were poorly designed and that there was a conflict between part-time involvement in internship training and in academic education. One found the program "geared more to preparing technicians than research directors" and proceeded to develop a "doctoral program using the Research Training Program as a starting point."

In contrast, the graduates' impressions of both regional seminars and internships were generally favorable, and many of them continued to work toward higher academic degrees.

Several directors pointed to the fact that few school districts provide either the time or money needed to employ school researchers. A number of them mentioned the lack of demand for graduates at the level described in the proposal. One suggested a "combined program, funding

the position (at the school level) and supporting the candidate" in the manner, perhaps, that guidance services and training were funded in the early sixties. Other suggestions included having students take courses in administration in preparing for administrative positions which have research and evaluation responsibilities, and encouraging program graduates to continue study toward a clearly defined terminal degree such as a doctorate.

8. Should this or a similar program be continued?

All of the respondents said that this should be done.

9. Estimate of the professional qualifications of program graduates.

All respondents were satisfied with the professional qualifications of the graduates. Comments ranged from "adequate after they were trained" to "some of the most qualified people in the area to do the types of research and evaluative jobs most schools have need doing."

Summary

University directors were in agreement as to the need for educational researchers in public schools and the need for an educational program to prepare them. Although careful to distinguish between the intellectual ability of these trainees and doctoral students, their reaction to the trainees' achievements went from "adequate" to "very acceptable," the few exceptions being unqualified participants who were counseled out of the program. Program graduates were unanimously judged to be professionally qualified.

All directors felt the program should be continued. Minor differing views were expressed on the proper implementation of the program goals,

details of administration, the State-directed seminars, and field experiences, with the only major difficulty, as all directors saw it, being the lack of employment opportunities in this area of responsibility.

An apparent difference existed between the climate at upstate institutions and those in the New York City metropolitan area. This was not due solely to the geographical separation. With the upstate institutions still growing at a rapid pace, the Research Training Program became an integral part of this growth and helped to contribute to it. At one institution, the initial six trainees were a large proportion of the total post-master's level students in the Department of Educational Psychology. In another, no doctoral level programs existed, making the 60-hour training program one of its most advanced graduate programs.

Trainees at both these institutions were considered among the academic elite and a strong esprit-de-corps developed. Each of these institutions also had its own "regional seminar," possibly adding to the cohesiveness. Upstate university directors, furthermore, had far more direct contact with the trainees. In short, the program was profitable and relevant to all concerned.

Large metropolitan areas have their problems in all walks of life, this particular training program being no exception. In the downstate area, student involvement with professors and fellow-students was not as intense, one possible cause being a larger number of interinstitution transferees. One university viewed trainees as comparable to M.Ed. students. Sheer enormity of student populations might also have affected the program.

D. Responses of graduates to questionnaire

A questionnaire was sent to all 77 graduates asking (1) current academic and employment information and (2) their attitude toward the program. Concerning their employment, graduates were asked such salient facts as their present salary, salary before participating in the program, relevancy of their present responsibilities to their courses and internship, and comparison of their prior employment expectations with their present position.

They were asked whether or not they felt the program had adequately prepared them, the part of the program they considered the most valuable, and if they would make any program changes. Graduates were also asked to state the types of degrees, certificates, and other academic credentials they now held. There were 44 questionnaire replies as of 12/31/71.*

Employment

Of the 77 graduates, 37.6 percent are presently employed by local districts, including urban as well as Union Free School Districts (see figure 3). Responsibilities on a local district level are held primarily by those designated as researchers or evaluators, with the remainder being principals, supervisory personnel, guidance directors, and classroom teachers.

Another 24.7 percent of the graduates are now allied with university research centers or instruct on a college level. An additional 18 percent are with supplementary private or public educational agencies, on either a state or local level. The proportion of time devoted to research and evaluation activities by type of employment is shown in figure 4.

*A comparison of employment of respondents and nonrespondents in figure 2. In this respect the two groups appear highly similar.

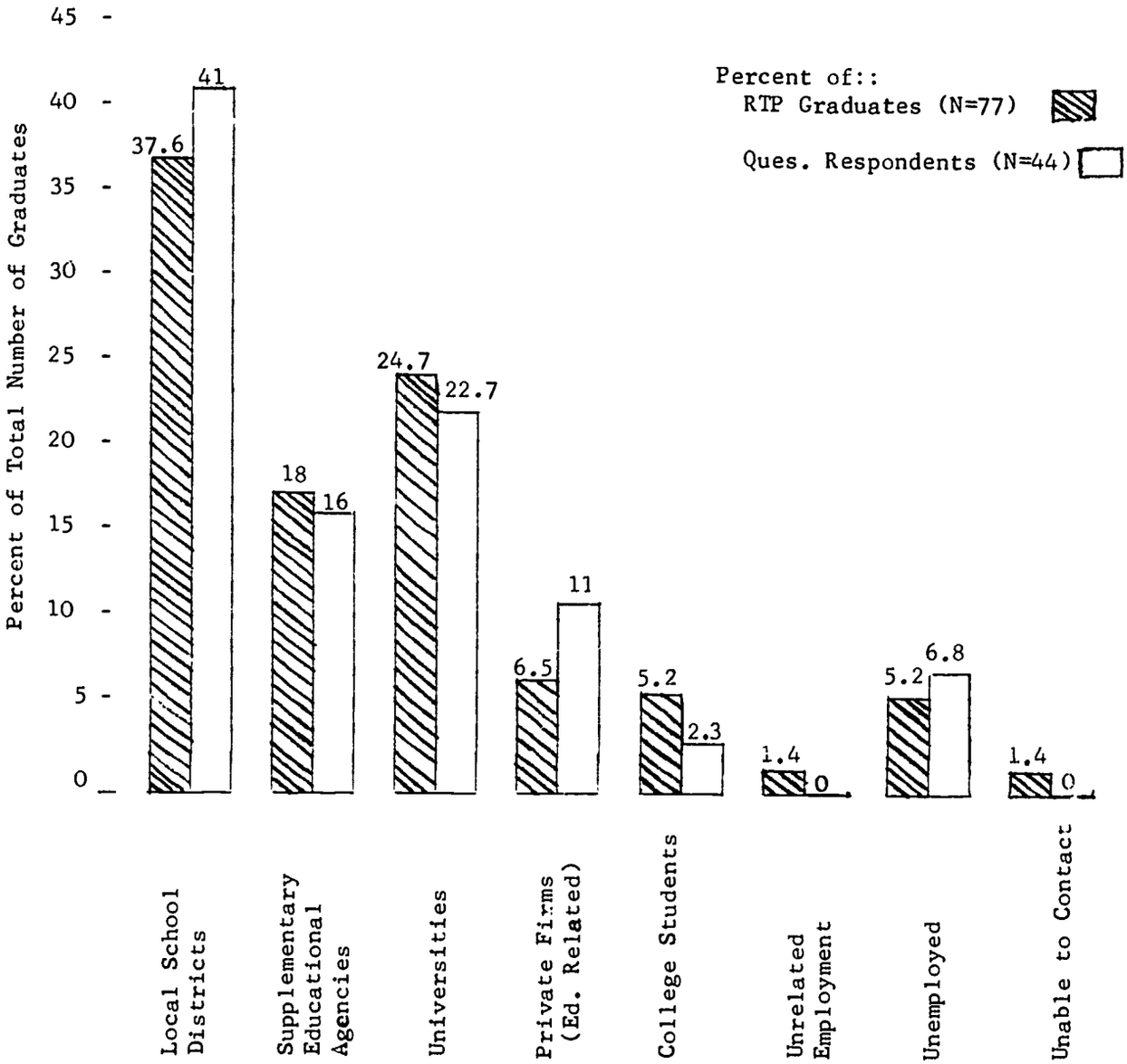


Figure 2. A Comparison by Employers of all RTP Graduates (Population) with Graduate Questionnaire Respondents (Sample)

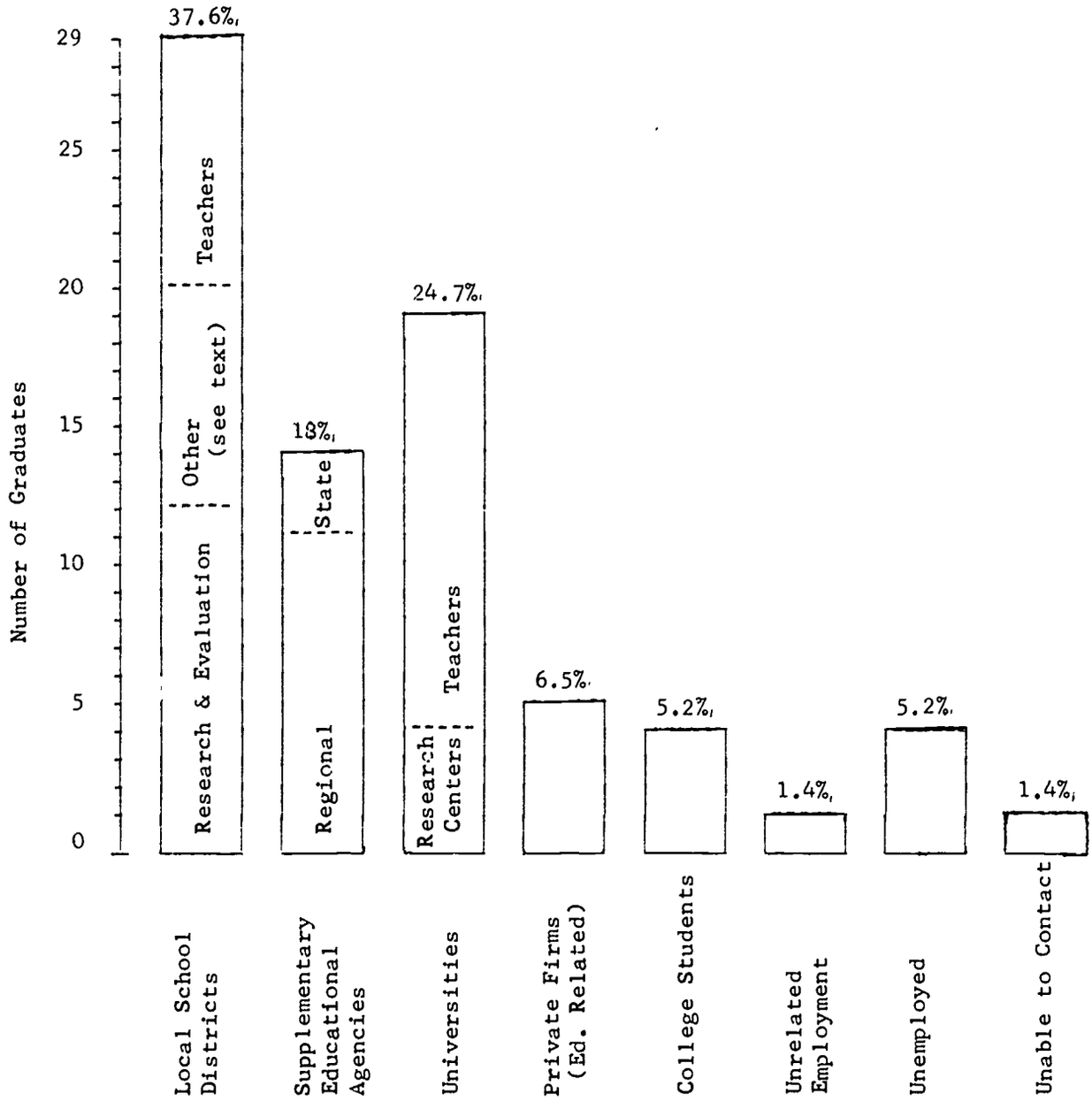
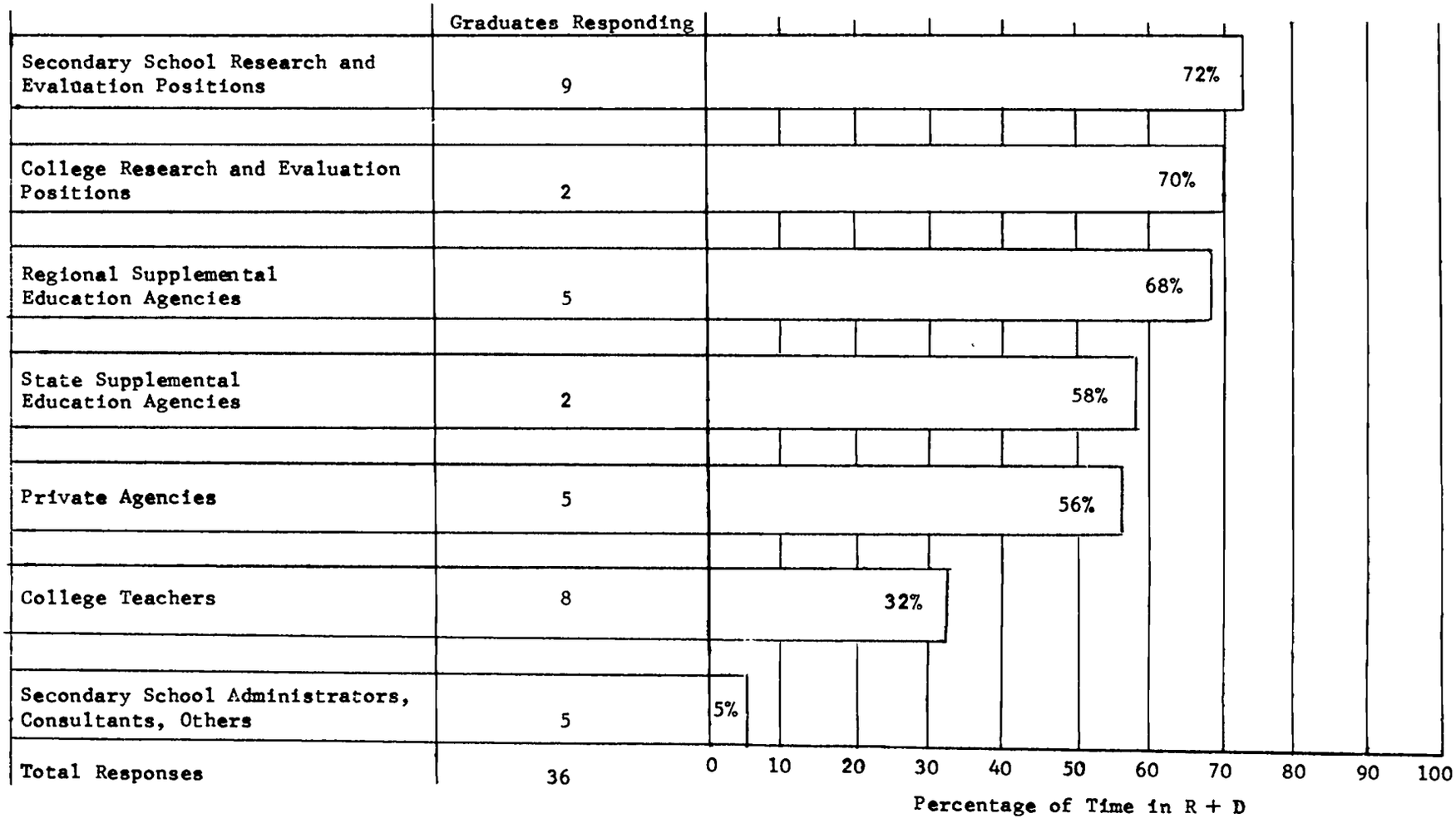
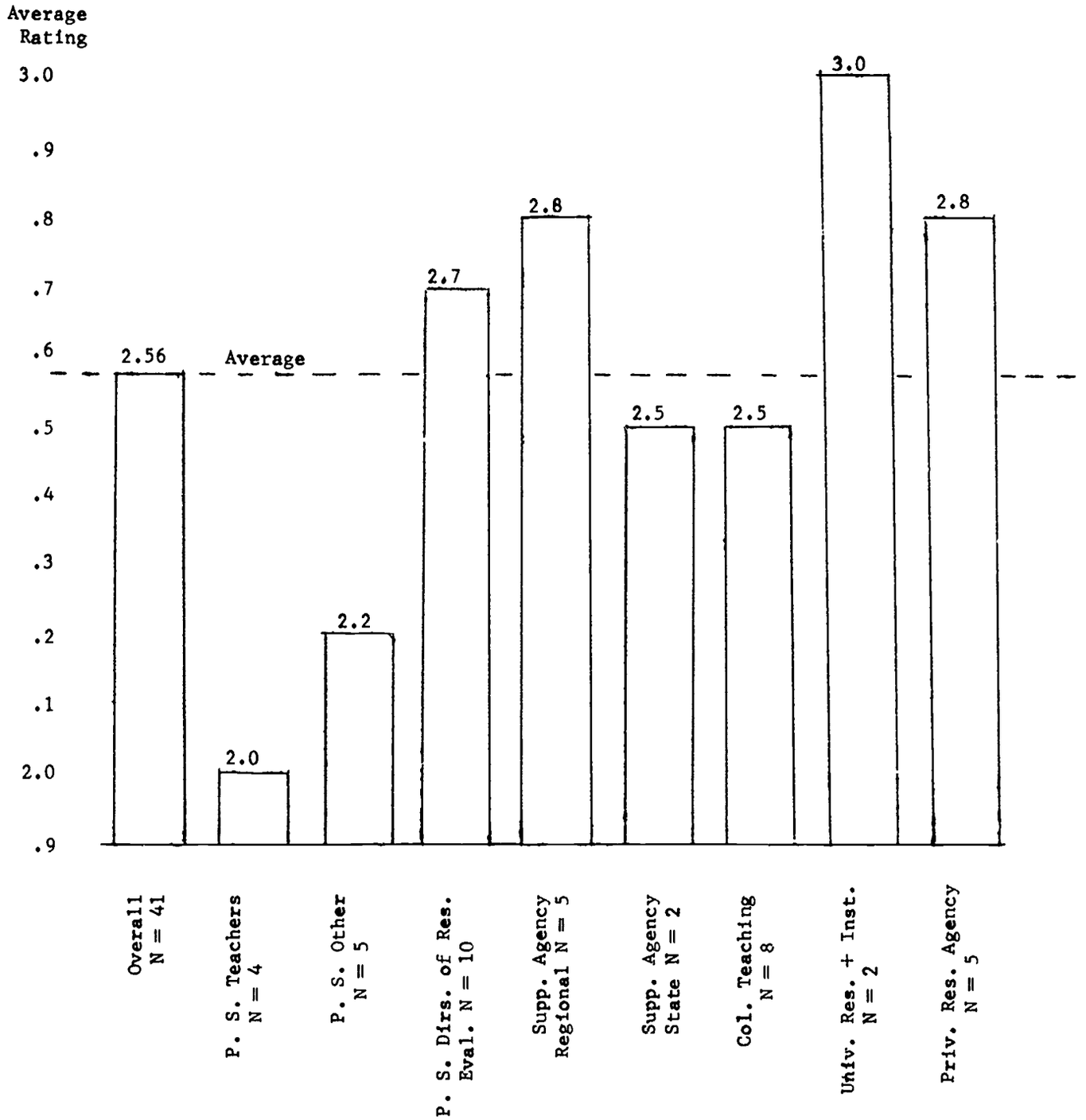


Figure 3 . Employers of Research Training Program Graduates



AVERAGE PERCENTAGE OF TIME SPENT IN RESEARCH AND EVALUATION BY GRADUATES IN CURRENT EMPLOYMENT

Figure 4



AVERAGE RATINGS OF RELEVANCE OF OVERALL RESEARCH TRAINING PROGRAM TO CURRENT EMPLOYMENT
(Scale = 1 low to 5 high)

Figure 5

A further statistical breakdown of the above is shown in figure 3 along with the percentage of those unemployed, continuing their studies, or employed with educationally related private firms.

Questionnaire answers relate the respondent's type of employment to his expressed attitude toward the program's relevance (see figure 4). Four out of five who are employed by local school districts rate the relevance as "medium," whereas four out of five employed by supplemental agencies rate relevance "high." Even so, the vast majority of graduates, on an overal basis, rated the program as relevant to their current employment (table 6).

Table 6

Relevance of Research Training Program to Current Employment

Relevance	No. of Respondents
High	24
Medium	16
Low	1
Total	41

Graduates were asked to indicate the extent of involvement with each of 11 duties described in the original proposal as functions of a public school research director (see table 6 for complete list).

Two activities received a relatively large number of "Always" responses (1 and 5). Activity 1 states, "Examine the ongoing process of education in order to locate and identify problems impeding the achievement of educational objectives." This activity is the most general and includes a variety of possible functions. Activity 5 says, "Develop evaluative measures of educational objectives." This activity is more specific and was stressed in the program.

Three activities, (6, 9, and 11) received a relatively larger number of "Never" responses. They read: "Operate projects in which teaching and learning materials will be evaluated," "Conduct inservice training in conjunction with research projects and in the application of research findings," and "Collect, record and analyze educational statistics required by the board of education, the superintendent of schools, and municipal, State, and Federal agencies."

Table 7

Extent Graduate Respondents Perform 11 Duties of a School Researcher/Evaluator

Activity	Always	Sometimes	Never
1 Examine educ. processes	20	18	3
2 Review research	6	31	4
3 Suggest solutions	8	30	3
4 Evaluate programs	9	24	8
5 Develop evaluative techniques	12	24	5
6 Evaluate materials	6	22	13
7 Tests	9	24	8
8 Consultant-curriculum	8	30	3
9 Inservice training	6	20	15
10 Cooperate with other agencies	8	26	7
11 Educational data	8	17	16

Levels of Education Attained

There were no doctorates among the 77 graduates upon their entry into the program. Of the 77, 73 percent had master's degrees and 27 percent had only bachelor's degrees. Doctorates were later received by 20 percent, with 32 percent earning degrees beyond that of the master's (e.g.; Certificate of Advanced Study, University Certificate, Professional Diploma).

Of the 35 graduates who do not have doctorates at this time, 12 are continuing graduate study with a view toward earning a doctorate in the near future. It is anticipated that 85 percent of the total eventually will obtain higher degrees.

Professional Achievements

Membership in professional organizations, books and articles written, conference presentations, and studies conducted are other indexes that may be related positively to the success of the program.

Professional membership was reported as follows: American Educational Research Association (AERA) -- 66 percent; Northeastern Educational Research Association (NERA), with one on the board of directors -- 61 percent; Phi Delta Kappa -- 32 percent; National Council on Measurement in Education (NCME) -- 15 percent; and American Psychological Association (APA) -- 5 percent.

Membership was reported in 25 other organizations related to education, psychology, administration,and subject areas or in local school organizations. Depth of activity range from one respondent who is in six national organizations to a few respondents who specified "none."

A list of 142 publications, presentations,and studies conducted by graduates of the Research Training Program is provided in appendix J. This averages 3.2 per graduate as of December 1971.

Graduates' Attitudes Toward Program

The graduates were asked to evaluate or comment on several aspects of the program, including program administration, "most valuable experiences," course work, internship, employment opportunities, program deficits, and personal attitude changes.

(1) Administration

Administration was rated using a 5-point scale, on both a university and state level (table 8). University administration was judged "excellent"

by 52 percent of the graduates, with the remainder of the responses spaced over the other four rating categories. Seven percent rated it "low". At the State level, an "average" rating was the most frequent response, with 35 percent so stating. The average rating of the university administration was 3.93 or slightly less than "good." The average rating of statewide administration was 3.56; between "average" and "good."

Table 8

Ratings of Program Administration
(Scale = 1 low to 5 high)

		Student Rating					
		Low 1	Less 2	Aver. 3	Good 4	Excel. 5	Total
University Level Administration	No.of Responses	3	4	8	5	22	42
	Percentage	7.1	9.5	19	11.9	52.4	100
State Level Administration	No.of Responses	4	2	15	10	12	43
	Percentage	9.3	4.7	34.9	23.3	27.9	100

(2) Most Valuable Part of the Program

The internship experience was cited by 30 percent of the graduates as the most valuable part of the program, with 17 percent mentioning academic coursework in general or specific classes such as research methodology, computer programing, or statistics courses. Others cited the value of regional seminars or the opportunity to interact with fellow trainees, competent instructors, and school personnel. Some responded in a very general way, praising the entire program or the exposure to research in educational psychology.

(3) Suggestions for Improvement

A variety of suggestions were made to strengthen the program. Certain ones, especially those pertaining to the course nature and content, were more relevant to a particular institution then to the program as a whole. Other suggestions relate directly to current employment and may be considered with respect to a graduate's specific problems rather than to the basic objectives of the program.

The most frequent suggestion called for increased emphasis on practical applications of research and evaluation skills or for more field work. Eleven persons specifically requested more emphasis on applied research. Seven students felt that the program should lead to an Ed.D. or a Ph.D., with more course work, if necessary.

An additional suggestion was that provisions should be made, within the program, for job placement. Several respondents asked for an emphasis on data processing, others requested the inclusion of courses on multivariate analysis, and three thought deletion of administration courses would improve the program.

Other suggestions:

More stringent internship entrance qualifications,

increased emphasis on public school orientation,

fewer project centers (increasing unity and communication),

closer supervision by the director, and

limitation of coursework participation to trainees.

One graduate thought the State and college directors were not sufficiently committed to the program and students. Another graduate stated,

"The changes that have to be made are in the legislative area, so that meaningful research can be conducted, and not behavioral objective, deadline-oriented research."

A. Coursework, Internship, and Employment

Graduates were asked to rate the quality and effectiveness of academic course work, internship, and postprogram employment opportunities. These were rated on a 5-point scale, 5 being the highest.

Academic course work: The quality of "academic coursework" averaged 4.02, ranging from 2 to 5, with 4 the most frequent rating. "Effectiveness of academic coursework" was rated 4.0 on the average, ranging from 3 to 5, with 3 and 5 chosen 15 times each.

Internship: This was given the highest average rating of the three areas, "quality" averaging 4.18 and "effectiveness" 4.19.

Employment opportunities: The least favorable aspect of the program was "Post-Program Employment Opportunities." "Quality" received an average rating of only 2.83, with ratings of 3, 2, and 1 accounting for 29 of 42 responses. "Effectiveness" was even lower in the opinion of the graduates, with an average rating of 2.79. Possibly relevant is the fact that seven graduates did not even bother to answer this part of the question.

The rating of these three major program aspects are summarised in table 9.

B. Program Deficits

Graduates were asked if there were any current research or evaluation problems with which they were dealing and for which the program had not adequately prepared them. Slightly over 50 percent reported they had received adequate training and that there were no problems. One answered "OF COURSE. However the program gave enough background for me to continue learning new things." Three individuals indicated that the question was not applicable to their present positions.

Table 9

Graduate Ratings of Three Major Aspects of the Program
(Scale = 1 low to 5 high)

Aspect	Number of Graduates Giving Rating of						
	5	4	3	2	1	Total	Average Rating
Academic Course Work							
Quality	13	21	8	2	0	44	4.02
Effectiveness	15	12	15	0	0	42	4.00
Internship							
Quality	22	11	9	1	1	44	4.18
Effectiveness	22	11	8	0	2	43	4.19
Post-Program Employment Opportunities							
Quality	8	5	10	10	9	42	2.83
Effectiveness	7	5	7	8	10	37	2.76

Of the remaining responses, seven stated that training in evaluation could have been more comprehensive, especially in the areas of "affective domain" and test construction. Five felt that their preparation was not adequate in research design and practical experience. Five indicated that more statistics, especially in multivariate analysis, would have been helpful. Four respondents had looked for more training in human relations and interpersonal dynamics. Three said they could have profited from more work with computers and data processing.

Course-related criticisms appear, on examination, to be more applicable to particular institutions or individual situations than to the program as a whole.

C. Attitude Changes

Graduates were asked if their attitudes toward the program had changed since completion of training. "No change" was reported by 86 percent. Many added, in fact, that they retained strong positive feelings about the program. Of the six who expressed a change in attitude, five were affected by the realities of their public education experiences differing from the theoretical approaches and attitudes developed during the program. One felt he found it necessary to change from a research orientation to an evaluation orientation.

(4) Other Comments

Each person was asked to list any reflections, observations, or comments beyond those previously stated ralating to any facet of the Research Training Program. Most frequently, graduates mentioned the extreme limitation of job opportunities in research and evaluation, especially on a public school level. Many thought the program should have led to a doctorate. Some thought that certain courses and/or the internship should have been more extensive. Most respondents expressed very positive feelings toward the program and its potential implications for the field of education.

A. Analysis of Internship

Internships lasted an average of 122 days: 77 days were spent in a central office, 27 in the field, and 18 at other locations. Students earned an average of 8.6 credit hours for the internship.

According to 51 percent of the trainees, the internship projects were organized, yet flexible enough so that they, themselves, could suggest changes.

Another 41 percent stated that in their internships, few, if any, procedures were established; that the intern developed and applied procedures appropriate for the project. Thirty-three percent worked on six or more projects, 22 percent on four or five projects, 20 percent on two or three projects, and 25 percent on only major projects.

More than 50 percent said that they had worked the equivalent of two or more days with teachers, school administrators, other school staff, college faculty, other researchers, and with children. Little contact was made with governmental personnel, parents, boards of education, or community leaders.

University directors visited internship locations an average of 2.8 times per year. Interns, however, met with their university directors an average of 6.3 times. Fifty-four percent of the interns said that they conferred with their project director as often as necessary, with 26 percent stating that this was almost daily. Forty-eight percent said they were responsible to other persons in addition to their director.

No written report was required by 43 percent of the interns, 34 percent said that frequent reports were required and, in the case of 23 percent, only an end of internship report was required. The majority of interns found that the following facilities readily available: typing service, desk, telephone, work space, library and reference materials, calculators, computer services and test files.

The internship was an extremely valuable experience and one that all trainees should have, according to 67 percent of the respondents. Twenty-seven percent described their internship as valuable, but indicated

that others should be considered before trying the one they had. The remaining six percent said that their internships were of minimal value.

Summary

In general, current employment of the graduates is in areas consonant with the program objectives. Most of the sample of graduate respondents view their program experience positively. They view the overall program as relevant to their work. Although the time spent on various duties varies, most of the specific responsibilities of a Public School Research Director, as described in the proposal, are being performed by the majority of the graduates in their employment.

V. DISCUSSION

Statewide Research Training Program

In the program, 10 universities planned and administered cooperatively a Research Training Program under the direction of the New York State Education Department. With Federal financial funds an important aid, the program was largely a success.

Areas of difficulty seen in retrospect can be overcome in future programs. At some universities, a program composed of less than 10 students is difficult, at times causing inferior results. In a university having a strong doctoral program, provision for transitioning research trainee graduates to such a program might be made. In some cases, a university should direct its energies to either one type of program or another. Certain universities might consider staying away from a 60-hour program unless it leads to a doctorate.

Employment Opportunities for Graduates

Fluctuations of the job market make it difficult to plan such a training program in relation to employment. This study does not compare graduate placement with training received. Taking specialized training appears to have the risks of not being appropriately placed, or of even being unemployed. It is crucial, therefore, that employment placement be considered in advance, and be a continuing concern by both trainees and those conducting the program.

While one possible solution would be to plan training which is responsive to job demand, difficulties arise with the combination of a 2-year program and inflexible funding. Funding initial employment,

addition to the program itself, might be a beneficial investment.

Specialist and Doctoral Program

A commitment to either a specialist or doctoral program need not be an irreversible decision. A doctoral candidate may find that a specialist degree more adequately meets his needs, and vice versa. A program might also be developed flexible enough to accomodate the candidate's changing demands.

Practical Field Experiences

Several of the graduates strongly recommend that practical field experiences be provided beyond those included in the program. A proper balance would, of course, have to be struck between practical and theoretical approaches. Individual differences among students, as well as universities, would need to be considered. Exposure of the student to the relative merits of each approach would help him to make a more enlightened decision concerning his own course of study.

VI. SUMMARY AND CONCLUSIONS

Problems

Many educators feel that the use of more pertinent research findings can strengthen the education of our nation's children. The purpose of the Research Training Program was to prepare researchers who, with a practical orientation, would apply their findings and methods to classroom decisions and operations.

When the program began in 1966, there was an urgent need to evaluate many of the programs assisted by the Elementary and Secondary Act, as well as other Federal and State categorically aided programs. There was also a severe shortage of qualified research personnel.

Approach

The U. S. Office of Education awarded a grant to the New York State Education Department to organize a 60-credit, 2-year sequence for training public school-based researchers. Directed by the Education Department, the program was cooperatively conducted by 10 New York State institutions of higher education. The course work included research methodology, statistics, measurement, psychology, a research demonstration practicum, field experiences for the development of skills, and a 1-year internship in a school-based study.

The universities organized their own study programs and were responsible for counseling the trainees' use of time, advising of course work, and locating internships and supervised field experiences. It was assumed that the shortage of school research personnel would continue, and that the establishment of a State certificate would assist in job placement for the graduates.

Results

The program enrolled 107 trainees; between September 1966, and June 1971, 77 were graduated. The average cost per graduate to the program was $13,600. University directors judged the graduates to be professionally qualified and recommended that the program be continued. They distinguised, through, between trainees and other doctoral level graduates in terms of ability.

The program was influential in facilitating the growth of research departments at two institutions. The anticipated special State certification for graduates has not materialized.

School districts employed 38 percent of the graduates, with 25 percent going to universities and 18 percent to State and regional agencies. Graduates are finding their current employment relevant, in varying degrees, to the education received in the program. The amount of time spent in research and evaluation activities ranged from 4 percent for secondary administrative personnel to almost 70 percent for research and evaluation positions at the secondary and collegiate levels. The mean amount of time spent on research and evaluation activities was 54 percent.

After completing the program,64 percent of the graduates continued on to receive higher degrees. An additional 20 percent are aiming at this goal. Within the 5-year period of the program, each graduate prepared works for publication, conducted studies, or gave presentations at professional meetings an average of 3.2 times.

Graduates rated university administration of the program as "good," with State-level administration rated between "average" and "good." The

second-year internship experience was cited by the graduates as the most valuable part of the program. On a 5-point scale, the internship was rated highest with 4.2, academic coursework - 4, and a 2.8 rating for postprogram employment opportunities.

The most frequent suggestion for improvement was for increased emphasis on practical application of research and evaluation skills or more field work. Many felt that the program should lead to Ed.D. or a Ph.D., with more coursework, if necessary. Student attitudes toward the program were found to be positive and unchanging. Graduates, nevertheless, were disappointed that more research and evaluation jobs were not available in a period when employment of educators in general was low.

Conclusions

1. Methods used to prepare research and evaluation specialists through a coordinated program proved successful.
2. Graduates were able to use their specialized education effectively, not only in public school environments, but in other educational situations.
3. Although placement of graduates was not ideal, it was found to be possible in a period of low employment, and without the aid of a special State certification.
4. In future programs, the organization of statewide seminars could be improved.
5. More emphasis should be placed on field work, with a possible orientation of some of the program phases toward doctoral work.

VII. RECOMMENDATIONS

In reaction to this study, a number of followup activities, on both a statewide and nationwide basis, are recommended.

1. Employment of graduates

Not all of the graduates are in positions making greatest use of their preparation and experience. A list of graduates available for placement should be maintained and distributed where action is most likely to be taken. Names should be accompanied by a detailed description of the researcher's experience and education.

2. Certification

Certification in the United States is undergoing radical changes. The specific certification of yesterday is giving way to the more general certification of today. Reciprocal certification among states is becoming the rule.

Performance criteria are being more regularly used as a basis for certification. There is an emerging trend for professional organizations to assist the Department in establishing certification standards in their areas. A possible use of this latter approach should be considered in the certification of research personnel.

3. Program continuation

The need for advanced preparation of research and evaluation personnel to serve on a public school level continues to be urgent. Those universities and colleges that have developed strong programs, as a development from this federally-funded Research Training Program, should be encouraged to continue and refine them. As demands for quality education and accountability

increase, with possibly continued Federal financial assistance for local operation, the need for such personnel will expand even more.

4. Program Information Dissemination

Local school administrators in a position to employ graduates of such programs as described herein, may not be aware of their availability.

5. Teacher Applications

Modern teachers need training in applying research to pupil learning situations. A cadre of local personnel having research training should be developed to train teachers to locate proven practices, view demonstrations, and adapt materials and processes to their own planning.

Appendix A
Office of Research and Evaluation
New York State Education Department
GRADUATE TRAINING PROGRAM FOR SPECIALISTS IN EDUCATIONAL RESEARCH

Application Blank for Graduate Training Program

IDENTIFICATION

Name:_____ University:_____

Address:*_____ Soc. Sec. #_____

_____ Tchrs. Ret. #_____

Birthdate:_____

_____ Phone:_____

DEPENDENTS

Name	Relationship	Age	Name	Relationship	Age

EDUCATION BEYOND HIGH SCHOOL

Institution	Degree	# Credits	Major Field	Dates Attended	

TEACHING AND OTHER SCHOOL EXPERIENCE

Position	Subjects, Grades, or Areas Taught, Supervised, or Administered	School and Location	Dates	
			From	To

COURSES COMPLETED (Indicate the number of undergraduate and graduate credits completed in each area listed.)

	Under Grad.	Grad.		Under Grad.	Grad.		Under Grad.	Grad.
Tests and Measurements			Statistical Inference			Research Design		
Psychology of Learning			Advanced Statistics			Test Construction		
Educational Psychology			Principles, Problems, and Methods of Research			Computers Electronic Data Process.		

*Please notify the Director of Research Training, Office of Research and Evaluation, New York State Education Department, Albany, New York 12224, of any change in mailing address.

Appendix B

NEW YORK STATE RESEARCH TRAINING PROGRAM

Required Courses at Each Institution

University	Educational Research Design (9-12)	Statistics (9-12)	Measurement and Evaluation (9-12)	Computer Science (3)	Psychology of Learning	Field Experience (2-3)	Internship (9-12)
THE CITY UNIV. OF NEW YORK	75700 Seminar 2* in Ed. Res. 75701 Ind. Sty. in Ed. Res. 1* 75703 Prob. in Ed. Res.(Reg.) 79705 Colloquium in Ed. & Psy.	76772 Descrip. Stat. & Lab 76773 Inferen. Stat. & Lab 79701 Adv.Res. Des. in Educ. Research	77778 Appr. & Eval. I 77779 Appr. & Eval. II 77781 Inst. Meas. & Eval.	76765 Elec. Data Process.	77772 Adv. Ed. Psy.I	79791 Field Work	797792 Intern. 9*
FORDHAM UNIVERSITY	Ed304 Res. Meth. in Educ. Ed453.20 Res. Prof. Sem. Ed307 Prob. in Ed. Res. (Reg.)	Ed245.10 Stat. Methods in Ed. & Psy. I Ed245.11 Stat. Methods in Ed. & Psy. II Ed 344.12 Exp. Design	Ed 243.53 Psy. & Educ.Meas. I Ed 243.54 Psy. & Educ. Meas. II Ed 243.90 Con. of Ed. Tests Ed 343.92 Psy. Analysis of Subj. Matter Disabilities	Ed245.20 Auto. Data Process.	Ed 333.12 Psy. of Learning	Ed 249.30 Field Exper. in Res.I	Internship Ed249.31 2* Ed349.30 4* Ed349.31 4*
HOFSTRA UNIVERSITY	EdPsy 281 Meth. of Res. in Ed. EdPsy 283 Prob. in Ed. Res. (Reg.) EdPsy 290 Res. Dissemination Praticum	EdPsy259 Intro. Stat. in Ed. Psy263 Advanced Stat. Meth. EdPsy260 Non-parametric Stat. in Ed. Research	EdPsy240 Eval. in Ed. EdPsy243 Devel. & Test. of Ed. Instru. SpEd116 Ed. & Mental Meas. in Sp. Ed.	Bus.Stat. 202 Computer Programming Bus.Stat. 112 Bus. Stat. & Computer App. Bus.Stat. 247 Data Process.	Psy 255 Psy. of Learning	EdPsy291-2 Field Work in Ed. Research 2-4*	EdPsy 293-4 Field Work in Ed. Research 2-12*

*Unless otherwise indicated, courses carry 3 credit hours.
Note: The courses listed above are required in each area.

University	Educational Research Design (9-12)	Statistics (9-12)	Measurement and Evaluation (9-12)	Computer Science (3)	Psychology of Learning	Field Experience (2-3)	Internship (9-12)
NEW YORK UNIVERSITY	E35.2073 Res. Des.&Meth.I E35.2074 Res. Des.&Meth.II Probs. in Ed.Res. (Reg.)	E12.1085-6 Basic Stat. G63.2961 Stat. Inference G63.2978 Expt'l. Design	E35.1035 Meas.& Evaluation I G89.2243 Psychometric Theory G89.3244 Applied Psychometrics E35.2035 Meas.& Evaluation II	Electronic Data Processing	E35.2114 Ed. Psy. G89.3219 Psy. of Learning	Field Work	Internship in Ed. Res.
ST. JOHN'S UNIVERSITY	301M Res. in Ed. or 301D Res. in Ed. Prob. in Ed. Res. (Reg.)	127 Stat.Tech.I 128 Stat.Tech.II 302 Exp. Des.	113 Tests & Measurement 225 Tests & Measurement in Guidance 232 Psychomet. Theory & Des.	Mgmt. 151 Digital Computers in Science & Ind	220 Psy. of Learning	321 Field Work in Research	321 Internship in Research
SUC AT BROCKPORT	EDU591 Intro. to Ed. Res. EDU593 Sem. in Research	EDU 488 Des. Stat. EDU 588 Exp. Design	EDU503 Sem. in Evaluation EDU487 Meas. & Appr. in Guid. & Pers. Work PSH584 Adv. Tech. & Meas. of App.	EDU4599 Comp. Problems in Educ.	PSY432 Psy. of Human Learn.	EDU597 Super. Field Work & Practice in Educ. Res. in Public School	EDU4697 Internship in Ed. Res.
SUNY AT ALBANY	EPSY650 Ed. Res. Prob. EPSY750 Ed. Res. Des. EPSY890 Res. & Indep. in Ed. Psych. (Reg.) EPSY755 Sem. in Res. in Ed. Psy. 3-6*	EPSY530 Stat.I EPSY630 Stat.II EPSY731 Exp. Design	EPSY540 Eval. in Ed. EPSY640 Ed. & Psy. Measure EPSY742 Test Construction EPSY744 Theories of Validity & Rel. EPSY641 Det. of Handicaps to Learning EPSY740 Sem. in Topics of Learn.	ACSI580 Comp. Science in Dis. ACSI201 Intro. to Com. Sci. ACSI202 Pro. Techniques	ESPY610 Adv.Ed. Psy: Learning or EPSY611 Adv.Ed. Psy.Learn. with Lab4* EPSY613 Adv.Ed. Psy.Concep. Learning EPSY720 Adv Ed.Psy. Tech.in Hum.Dev.	EPSY606 Field Work in Ed. Research 2-4* or ED890 Res. and Ind. Study in Ed.Psy. 2-4*	EPSY895 Internship in Ed. Psy. 8*

University	Educational Research Design (9-12)	Statistics (9-12)	Measurement and Evaluation (9-12)	Computer Science (3)	Psychology of Learning	Field Experience (2-3)	Internship (9-12)
SYRACUSE UNIVERSITY	Ed300 Methods of Ed. Res. Ed391Expt'l.Des. & Stat.Tests Probs.in Ed.Res.(Reg.)	Ed185G Stat. Meth.in Ed. &Psy. I Ed286 Stat. Meth.in Ed. &Psy. II Ed387 Stat. Meth. in Ed. & Psy. III	Ed275 Ed. Tests and Measurements Ed376 Appraisal & Evaluation Techniques Ed380 Theory of Test & Test Construction	Elec.Data Processing	Ed212 Prin of Learn. EdPsy110 Ed. Psy	Ed384 Field Exp. in Ed. Res.	Ed391-2 Internship
TEACHERS COLLEGE, COLUMBIA UNIVERSITY	TI3830 Met.of Empirical Re.I TP4590 Sem. in Ed.Res.(Reg.) TI3831 Met. of Emp.Res.II TY4003 Theory & Res.in Teaching	TI3801 Intro.to Prob.& Stat. TI3802 Stat.Inf. TI4800 Cor. Analysis 2* TI4801 Exper. Design	TP3502 Psy. Measurement TP4580 Ind.Psy. Testing 2* TP4500 Gp Test Prog.in Sch. TP5500 Theory & Prac. of Test Const. TP5501 (Same as above) TP4501 Pers. Measurement TP4505 Eval. of Inst., Prog. & Curricula TP4506 (Same as above)	TI5880 Stat. Treatment of Mass Data	TP3102 Psy. of Learn.	TP4590 Field Work in Res. and Eval.4* TP4591 Field Work in Res. and Eval.4*	TP5590 Intern. in Res. and Eval. 4*
UNIVERSITY OF ROCHESTER	400 Intro. to Research 415 Ed.Res: Function &Meth. Probs. in Ed.Res.(Reg.)	411 Ed.Stat. 511 Advanced Ed. Stat. 521 Adv. Meas.& Des. of Expts.	412 Ed. Meas. 253 Psych.Meas. 513 Theory of Psy. Testing	QNT231.Elec. Data Process.	210 Ed.Psy. 410 Adv.Ed. Psy.	590 Field Work in Ed. Res.	593 Internship in Research

Appendix C

Survey Form of Potential Intern Locations

THE UNIVERSITY OF THE STATE OF NEW YORK
The State Education Department
Research Training Program

Survey for Research Training Internships

Respondent: _____

Address: _____

_____ Zip Code _____

1. Title of Research Underway or Contemplated (If you have two or more projects, attach additional sheets answering items 1 through 10 for the second and other projects.)

_____

_____

2. Duration of Study _____

_____

3. Nature of Study (Describe in brief the area of investigation and methodological approach. Attach proposals and reports or project summaries if available.)

_____

_____

_____

_____

_____

_____

4. Personnel Engaged in Project (If part-time, indicate hours per week spent on study.)

Name	Title	Full-time or part-time

5. Source of Project Support (e.g.; USOE, university or foundation grant, school budget allocation, State aid)

6. Would you be able to use the services of a second-year graduate student on your project 3 full days a week for the 1967-68 school year? _____ If so, how many students? _____

7. What would be the nature of assignments for the intern or interns?

8. Who would be responsible for supervision of the interns?

9. Indicate the Training and Experience of the person designated above.

College	Degree	Date of degree

Research Experience

Publications

10. Would you be in a position to offer any compensation to an intern?

Appendix D

List of Potential Work Opportunities While Interns

Mr. Robert M. Hecht Bronx Community College School Budget	Various projects dealing with college student activities and achievement.
Martin B. Miller Yeshiva University U.S.O.E.	Curiosity behavior in educable mentally retarded adolescents: characteristics, modifiability, and training.
Leonard Diller N.Y.U. Medical Center Institution Grant	Develop schemes of observation of behavior of brain-damaged children in the nursery school and primary grades.
Mr. Robert N. King Glens Falls City Schools A - Title III, E.S.E.A. B - Title I, E.S.E.A.	A - Improving education for international understanding. B - The effectiveness of remedial techniques used for working with individual pupils.
Elizabeth M. Koppitz, BOCES - Meadow Brook BOCES	Children with emotional and/or neurological problems. Also, construction of a memory scale for elementary school children.
Millie Almy Teachers College, Columbia Univ. U.S.O.E. - Teachers College Faculty Research Fund	Effects of logical thinking in the second grade.
Josefa Nina Lieberman Brooklyn College NIMH, U.S.O.E.	Playfulness as a clue to cognitive styles in adolescents.
Mr. Arthur I. Gates Institute of Language Arts, Teachers College, Columbia University	Statistical studies of methods of teaching reading and testing reading abilities. Studies of the general theories involved in teaching reading.
Mr. Nathan S. Washton Queens College None	Taxonomy of pupil questions in science for creativity.
Mr. Julian Roberts Yeshiva University State Experimental Program	Human relations and its effect on teaching-learning in Social Studies.
Mr. Benjamin Cohn BOCES - Westchester (Yorktown Heights) U.S.O.E., N.Y.S. Educ. Dept.	Four studies - 1) Identification of learning in first and second grades, 2) Test construction, 3) Data processing, and 4) Counseling underachievers.

Mr. Daniel Ringelheim N.Y.U., Washington Square NICHD or U.S.O.E.	Personality variables related to the mentally retarded.
Mr. Joel Elkind Ramapo Central School District #2 State Aid, E.S.E.A., School Budget	Initiate research, incentive classes for overaged seventh and eighth graders, evaluation of various districtwide projects.
Philip A. Bolger New York City School System CRP, E.S.E.A.	Improving student achievement for Hispanic-background children.
Mr. Herbert Rusalem Hunter College Vocational Rehabilitation Administration	Rehabilitating and educating severely disabled homebound persons.
Brother Aloysius Rafael, F.S.C. Bishop Loughlin Memorial High School School Budget	Reevaluation of a guidance program. Followup of high school graduates.
Howard F. Fehr Teachers College, Columbia Univ. U.S.O.E., Teachers College	Secondary school curriculum improvement study in mathematics.
Mr. Leonard W. Ingraham Board of Education, Instruction and Curriculum,New York City School Budget, E.S.E.A., State Aid	Evaluation of curriculum materials in grades K-12.
Jack Bernard North Belmore School District School Budget	Predicting academic success in elementary school.
Mr. Josef E. Gorai Pratt Institute School Budget, Private Funds	1) Project talent search. 2) Evaluation of student volunteer work with culturally deprived children, sex differences in scholastic achievement.
Mr. Irving Zweibelson New Rochelle Public Schools School Budget, State Aid	Improving school attitudes and motivation by team-teaching and flexible grouping.
Mr. Roger Reger Williamsville School District Local Funds	Evaluation of special classes for emotionally disturbed, brain injured, learning problem children.
John M. Dodd State Univ. of N.Y. at Buffalo School Budget	Cognitive simplicity, school entrance age and achievement, evaluation of readiness for school, independent research.

Mr. D. F. Boyd IBM, Yorktown Heights IBM	Simulation modeling of a school system.
William S. Vincent Teachers College, Columbia Univ. School Systems	A variety of projects on quality measurement.
Mr. Gerald S. Hauna Harcourt, Brace, and World, Inc. Harcourt, Brace, and World, Inc.	Prediction of success in Algebra and Plane Geometry using aptitude tests and selected nontest variables.
Gary J. Robertson Harcourt, Brace, and World, Inc. Harcourt, Brace, and World, Inc.	Test standardization and validation studies: Otis-Lennon Mental Ability Test and/or analysis of learning potential.
Mr. Thomas P. Hogan Harcourt, Brace, and World, Inc. Harcourt, Brace, and World, Inc.	Interpretation of reading difficulties and suggested remediation will be programed for a diagnostic reading test.

New York State Education Department
Office of Research and Evaluation
Research Training Program
March 1967

Appendix E

NEW YORK STATE GRADUATE RESEARCH TRAINING PROGRAM

SUMMARY OF INTERNSHIP EXPERIENCES
1968 - 1971

This report is based upon the questionnaires returned from 69 of the 77 graduates of the program. The report includes the questionnaire with data summarized by year and by institution. Data are reported in means and percentages.

The University of the State of New York
The State Education Department
Research Training Program
Albany, New York 12224

Section I

Analysis of Internship Questionnaire
by Year of Completion

Questionnaire Items	Class of 1968 19 grad.	Class of 1969 14 grad.	Class of 1970 26 grad.	Class of 1971 10 grad.	Combined data 69 grad.
1. Number of days spent on internship	120	130	120	120	122
a. How many of these were full days?	110	123	108	115	112
b. How many of these were half days?	20	14	24	10	20
2. How many of these days were spent at					
a. A central office	67	100	73	74	77
b. In the field	38	16	26	24	27
c. Other locations (libraries, meetings, etc.)	20	17	19	13	18
3. How many supervisory visits were made by the university director with you and the director of your internship?	2.2	1.2	4.7	1.5	2.8
4. How many conferences did you have about the internship with the university director?	5.2	3.9	8.7	5.6	6.3
5. Which statement best describes the written reports required by the university for your internship?					
a. No written reports required.	47%	28%	46%	56%	43%
b. One end-of-the-internship report describing in general the work of the internship	11%	36%	35%	0%	23%
c. Frequent detailed reports about the internship (e.g.; monthly activity logue)	42%	36%	19%	44%	34%

Questionnaire Items	Class of 1968 19 grad.	Class of 1969 14 grad.	Class of 1970 26 grad.	Class of 1971 10 grad.	Combined data 69 grad.
6. Were regular seminars or class meetings held at the university for all trainees in internship positions?	Yes 58% No 42%	Yes 50% No 50%	Yes 56% No 44%	Yes 50% No 50%	55% 45%
7. How many credits did you receive for the internship?	8.4	7.8	8.9	9.3	8.5
8. During the internship, I worked on					
a. One major project exclusively	16%	36%	31%	10%	25%
b. 2-3 projects	32%	21%	11%	20%	20%
c. 4-5 projects	5%	29%	23%	40%	22%
d. 6 or more projects	47%	14%	35%	30%	33%
9. Rank the following activities by the amount of time you devoted to each:					
a. reading and library research	3.1*	3.6*	4.9*	4.2*	3.9*
b. meetings, planning, sessions, and conferences	3.7	3.7	3.1	3.6	3.4
c. testing, interviewing, and data collecting	2.7	4.0	3.3	2.3	3.1
d. developing data-collecting instruments	4.3	3.6	4.0	4.3	4.0
e. performing statistical calculations	5.9	5.0	5.1	3.5	5.0
f. clerical tasks (typing, filing, scoring)	7.2	6.4	5.9	6.7	6.5
g. writing proposals, reports, and articles	4.4	3.5	4.0	5.0	4.0
h. writing computer programs	7.4	5.4	7.6	7.6	7.5
i. other (please list)	7.1	3.6	7.3	7.9	7.6

*These data are the average ranks. The lower the average the greater the amount of time the trainee devoted to the activity.

Questionnaire Items	Class of 1968 19 grad.	Class of 1969 14 grad.	Class of 1970 26 grad.	Class of 1971 10 grad.	Combined data 69 grad
10. How frequently did you confer with your project director on your work?					
a. almost daily	5%	43%	23%	60%	26%
b. once in a 5-day week	16%	0%	8%	10%	9%
c. as often as I felt it necessary	63%	50%	54%	50%	54%
d as often as the director felt it necessary	11%	0%	11%	20%	7%
e. not frequently enough	5%	7%	4%	0%	4%
11. Were you responsible to persons other than the project director?	Yes 74% No 26%	Yes 50% No 50%	Yes 38% No 62%	Yes 50% No 50%	Yes 52% No 48%
12. Was the internship well equipped for research and evaluation tasks?	Yes 84% No 16%	Yes 64% No 36%	Yes 81% No 19%	Yes 70% No 30%	Yes 77% No 23%
13. Which of the following were readily available?					
a. typing service	89%	100%	96%	100%	96%
b. desk, telephone, work space	95%	100%	96%	100%	97%
c. calculators	95%	50%	77%	80%	77%
d. library and reference materials	89%	79%	92%	90%	88%
e. computer services	68%	29%	54%	60%	54%
f. test files	63%	36%	73%	90%	65%
14. Did the internship necessitate your working with (equivalent of 2 or more days)?					
a. teachers	84%	79%	85%	70%	81%
b. school administrators	89%	93%	92%	50%	80%
c. other school staff	63%	86%	77%	40%	71%
d. college faculty	58%	43%	50%	50%	51%
e. other researchers	74%	57%	73%	80%	71%
f. government personnel	37%	36%	31%	30%	33%
g. parents, boards of education members, community leaders, representatives of organizations	26%	14%	31%	30%	26%
h. children	74%	57%	62%	50%	62%
i. others	16%	7%	8%	10%	10%

Questionnaire Items	Class of 1968 19 grad.	Class of 1969 14 grad.	Class of 1970 26 grad.	Class of 1971 10 grad.	Combined data 69 grad.
15. Which statement best describes your activities during the internship?					
a. The procedures for the project(s) were pre-established. I simply carry them out.	24%	0%	8%	10%	12%
b. Procedures for projects were outlined and flexible. I could suggest changes and when justified they were accepted.	41%	57%	54%	50%	51%
c. Few if any procedures were established. I developed and applied those appropriate for the project(s).	35%	43%	38%	40%	41%
16. Which statement best describes your evaluation for the internship?					
a. An extremely valuable experience. All interns should have it.	69%	72%	58%	80%	67%
b. Valuable, but other internships should be considered before this one.	26%	21%	34%	20%	27%
c. Of minimal value in the preparation of an educational researcher. If possible, no other interns should be placed here.	5%	7%	8%	0%	6%

Section II

Analysis of Internship Questionnaire
by Institute Attended

Questionnaire Items	Participating Institutions										
	CUNY N=4	Fordham N=10	Hofstra N=7	New York Univ. N=3	Rochester N=4	St. John's N=7	SUC Brockport N=10	SUNY Albany N=11	Syracuse N=3	Teachers College N=10	Combined data N=69
1. Number of days spent on internship	119	114	127	148	126	121	121	119	121	123	122
a. How many of these were full days?	109	106	119	145	102	119	118	101	120	111	113
b. How many of these were half days?	20	17	17	5	48	4	6	36	1	24	19
2. How many of these days were spent at											
a. A central office	88	88	90	113	49	73	66	68	94	72	77
b. In the field	15	16	23	19	72	29	30	33	17	25	27
c. Other locations (libraries, meetings, etc.)	21	14	15	16	29	26	11	21	14	20	18
3. How many supervisory visits were made by the university director with you and the director of your internship?	13.3	2.4	2.9	2.0	4.5	0.7	4.7	1.2	0.3	1.8	3.0
4. How many conferences did you have with the university director?	13.5	4.6	7.1	5.0	12.0	2.8	7.0	6.5	3.0	6.2	6.4
5. Which statement best describes the written reports required by the university for your internship?											
a. No written reports required.	50%	10%	0%	33%	0%	71%	70%	73%	100%	40%	45%

Questionnaire Items	Participating Institutions										
	CUNY N=4	Fordham N=10	Hofstra N=7	New York Univ. N=3	Rochester N=4	St. John's N=7	SUC Brockport N=10	SUNY Albany N=11	Syracuse N=3	Teachers College N=10	Combined data N=69
b. No end-of-the-internship report describing in general the work of the internship.	50%	20%	29%	0%	25%	29%	20%	18%	0%	30%	23%
c. Frequent detailed report about the internship (e.g.; a monthly activity logue)	0%	70%	71%	67%	75%	0%	10%	9%	0%	30%	32%
6. Were regular seminars or class meetings held at the university for all trainees in internship positions?	50%	90%	100%	67%	50%	14%	80%	27%	67%	10%	Yes 54%
	50%	10%	0%	33%	50%	86%	20%	73%	33%	90%	No 46%
7. How many credits did you receive for the internship?	6.8	8.2	11.4	6.7	11.0	8.1	8.6	8.0	9.0	7.7	8.1
8. During the internship, I worked on											
a. One major project exclusively	75%	30%	0%	0%	0%	14%	10%	19%	33%	30%	20%
b. 2 - 3 projects	0%	10%	57%	0%	0%	29%	10%	27%	33%	30%	22%
c. 4 - 5 projects	0%	30%	14%	0%	0%	14%	30%	27%	0%	20%	19%
d. 6 or more projects	25%	30%	29%	100%	100%	43%	50%	27%	33%	20%	39%
9. Rank the following activities by the amount of time you devoted to each											
a. reading and library research	5.1	3.9	4.3	2.0	5.3	3.9	4.6	4.7	1.7	3.2	3.9
b. meetings, planning sessions and conferences	4.3	3.5	4.3	3.0	1.5	3.1	1.9	4.7	2.0	3.9	3.4

Questionnaire Items	Participating Institutions										
	CUNY N=4	Fordham N-10	Hofstra N=7	New York Univ. N=3	Rochester N=4	St. John's N=7	SUC Brockport N=10	SUNY Albany N=11	Syracuse N=3	Teachers College N=10	Combined data N=69
c. testing, interviewing and data collecting	4.0	2.8	1.9	2.3	3.0	3.2	3.9	2.1	4.3	4.0	3.1
d. developing data-collection instruments	1.3	3.0	3.7	4.7	4.0	7.0	3.2	5.0	3.7	4.1	4.0
e. performing statistical calculations	5.8	5.6	5.0	5.7	6.0	4.0	5.1	3.8	5.7	5.1	5.0
f. clerical tasks (typing, filing, scoring)	6.8	6.9	6.7	7.3	7.3	6.1	6.1	5.4	7.3	6.7	6.5
g. writing proposals, reports, and articles	3.6	4.2	3.8	4.0	3.8	3.5	4.0	4.1	6.7	3.8	4.0
h. writing computer programs	7.3	7.4	7.6	8.0	8.3	7.1	7.8	6.8	8.3	6.9	7.5
i. other (please list)	7.0	7.9	7.7	8.0	6.0	6.9	8.5	2.0	6.7	5.9	7.6
10. How frequently did you confer with your project director on your work?											
a. almost daily	25%	10%	86%	33%	0%	43%	20%	27%	67%	20%	30%
b. once in a five day week	25%	10%	0%	0%	0%	14%	0%	18%	0%	10%	9%
c. as often as I felt it necessary	50%	70%	14%	67%	100%	29%	80%	55%	33%	60%	56%
d. as often as the director felt it necessary	0%	10%	0%	0%	0%	14%	0%	0%	0%	0%	4%
e. not frequent enough	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	1%
11. Were you responsible to persons other than the project directors?	25%	50%	57%	33%	100%	43%	50%	55%	67%	50%	Yes=52%
	75%	50%	43%	67%	0%	57%	50%	45%	33%	50%	No=48%
12. Was the internship well equipped for research and evaluation tasks?	100%	80%	86%	100%	100%	57%	70%	73%	0%	90%	Yes=77%
	0%	20%	14%	0%	0%	43%	30%	27%	100%	10%	No=23%

Questionnaire Items	Participating Institutions										
	CUNY N-4	Fordham N=10	Hofstra N=7	New York Univ. N=3	Rochester N=4	St. John's N=7	SUC Brockport N-10	SUNY Albany N=11	Syracuse N=3	Teachers College N=10	Combined data N=69
13. Which of the following were readily available?											
a. typing service	100%	90%	100%	100%	100%	86%	100%	91%	100%	100%	96%
b. desk, telephone, work space	100%	100%	100%	100%	100%	86%	90%	100%	100%	100%	97%
c. calculators	100%	70	57	100%	100%	43%	80%	91%	67%	80%	77%
d. library and reference materials	100%	90%	100%	100%	100%	86%	70%	91%	100%	90%	90%
e. computer services	75%	50%	14%	33%	100%	0%	60%	64%	33%	70%	51%
f. test files	100%	50%	57%	33%	75%	43%	70%	82%	0%	80%	64%
14. Did the internship necessitate your working with (equivalent of 2 or more days)											
a. teachers	100%	80%	100%	100%	100%	71%	70%	73%	100%	60%	80%
b. school administrators	100%	80%	71%	100%	100%	100%	90%	55%	100%	90%	84%
c. other school staff	75%	80%	71%	67%	100%	87%	60%	45%	0%	60%	65%
d. college faculty	75%	50%	57%	67%	100%	29%	70%	18%	0%	50%	49%
e. other researchers	50%	70%	86%	67%	100%	71%	80%	64%	67%	70%	72%
f. government personnel	25%	20%	14%	67%	75%	43%	50%	27%	0%	30%	33%
g. parents, board of education members, community leaders, representatives of organizations	25%	30%	29%	33%	75%	29%	40%	9%	0%	0%	25%
h. children	100%	80%	71%	67%	100%	43%	40%	55%	67%	50%	62%
i. others	25%	30%	0%	0%	25%	0%	0%	18%	33%	10%	13%
15. Which statement best describes your activities during the internship?											
a. The procedures for the projects were preestablished. I simply carried them out.	0%	0%	0%	0%	0%	14%	10%	18%	0%	0%	4%

Questionnaire Items	Participating Institutions										
	CUNY N=4	Fordham N=10	Hofstra N=7	New York Univ. N=3	Rochester N=4	St. John's N=7	SUC Brockport N=10	SUNY Albany N=11	Syracuse N=3	Teachers College N=10	Combined data N=69
b. procedures for projects were outlined and flexible. I could suggest changes and when justified they were accepted.	75%	70%	43%	67%	0%	57%	40%	64%	100%	50%	55%
c. Few if any procedures were established; I developed and applied those appropriate for the projects.	25%	30%	57%	33%	100%	29%	60%	18%	0%	50%	41%
16. Which statement best describes your evaluation for the internship?											
a. An extremely valuable experience. All interns should have it.	50%	70%	71%	67%	75%	57%	60%	64%	33%	70%	64%
b. Valuable, but other internships should be considered before this one	50%	30%	29%	33%	25%	14%	40%	27%	33%	20%	29%
c. Of minimal value in the preparation of an educational researcher. If possible, no other interns should be placed here.	0%	0%	0%	0%	0%	29%	0%	9%	33%	10%	7%

Appendix F

Location of Students for Internships

The City University of New York

Intern	Location	Supervisor
(7/69-6/70)		
Neckers, Fred	Research Training Program N.Y.S. Education Department Albany, New York	Louis T. Di Lorenzo Thomas F. Gould
Rosensweig, Larry	City College The City University of New York New York, New York	David Fox
Roth, William	City College The City University of New York New York, New York	David Fox
Storte, John	City College The City University of New York New York, New York	Theodore Abramson
(9/70-6/71)		
Brogan, John	City College The City University of New York New York, New York	David Fox
Spadafora, Raymond	City College The City University of New York New York, New York	David Fox

Fordham University

Intern	Location	Supervisor
(9/67-6/68)		
Abramson, Theodore	S.U.T.E.C. Public School #76 Long Island City, New York	Elaine B. Chapline
Halpern, Shelley	Center for Urban Education New York, New York	Mortimer Kreuter
Harckham, Laura	Ramapo Central School Dist. Spring Valley, New York	Joel Elkind
Katz, Alexander	Ferkauf Graduate School Yeshiva University New York, New York	Julian Roberts

Intern	Location	Supervisor
(2/68-1/69)		
Polk, Virginia	S.U.T.E.C. Public School #76 Long Island City, New York	Elaine B. Chapline
Spollen, Joseph	Suffolk Educational Center Patchogue, New York	Victor Gerhard, Jr.
Strum, Irene	Board of Cooperative Educational Services Yorktown Heights, New York	Richard L. Wing
(9/68-6/69)		
Rivera, Luis	N.Y.C. Board of Education Brooklyn, New York	Phillip Bolger
(7/69-6/70)		
Flynn, Mary	Nassau County Board of Cooperative Educational Serv. Jericho, New York	Jack Tanzman
Oxman, Wendy	Institute for Research and Evaluation Fordham University New York, New York	Joseph Justman
Manchester, Harry	S.U.T.E.C. Public School #76 Long Island City, New York	Janet Brown
(9/70-6/71)		
Butler, Sr. Loretta	Mineola Arts Project Mineola Public Schools Mineola, New York	Dennis Murphy

Hofstra University

Intern	Location	Supervisor
(2/68-1/69)		
Balletta, Robert	Connetquot Central Sch. Dist. Bohemia, New York	John Cirincione
Sanna, Margaret	New York Institute of Technology Old Westbury, New York	Leonard Morton
Simon, Alan	The Responsive Environment Center Brooklyn, New York	Benjamin Israel
Simon, Alan	Division of Research N.Y.S. Education Department Albany, New York	George Thomas

Intern	Location	Supervisor
Wood, Edwin	Freeport Public Schools Freeport, New York	John Gordon
(9/68-6/69)		
Cohen, Edward	The Education Council Mineola, New York	Jack Tanzman
Murphy, Dennis	Educational Development Laboratories, Inc. Huntington, New York	Donald Senter
Woog, Pierre	Suffolk County Regional Center Patchogue, New York	John Keough
(7/69-6/70)		
Kay, Claire	Freeport Public Schools Freeport, New York	Alonzo Shockley
Schnide, Helen	Union Free School District Levittown, New York	Jerome Notkin Monroe Fremed
(9/70-6/71)		
Behan, Wallace	Nassau County Board of Co-operative Educational Serv. Jericho, New York	Jack Tanzman
Brown, Rita	Freeport Public Schools Freeport, New York	Alonzo Shockley
Mulcahey, Thomas	Nassau County Board of Co-operative Educational Serv. Jericho, New York	Jack Tanzman

New York University

Intern	Location	Supervisor
(9/67-6/68)		
Shea, James	Long Beach Public Schools Long Beach, New York	Joseph Sturm
(2/68-1/69)		
Carson, John	U.S.O.E., Region II New York, New York	John Sokol

St. John's University

Intern	Location	Supervisor
(9/67-6/68)		
Gorman, Sr. M. Helen	Manhattan College Bronx, New York	Frank Lodato

Intern	Location	Supervisor
(2/68-1/69)		
Keller, Joan	The Education Council Mineola, New York	William Callahan
(7/69-6/70)		
Di Cesare, Vito	Suffolk County Regional Center Patchogue, New York	John Keough
Reilly, William	Board of Cooperative Educational Services Jericho, New York	William Callahan
Sullivan, Raymond	N.Y.C. Board of Education Brooklyn, New York	Philip Bolger
Zygadlo, Henry	Connetquot Central Sch. Dist. Bohemia, New York	George Graham
(9/70-6/71)		
Goldberg, M[illegible]n	School District #13 N.Y.C. Board of Education Brooklyn, New York	Louis T. Di Lorenzo
(1/71-7/71)		
Millar, Eric	Connetquot Central Sch. Dist. Bohemia, New York	Henry H. Zygadlo

State University of New York at Albany

Intern	Location	Supervisor
(9/67-6/68)		
Hayden, Robert	Schenectady Public Schools Schenectady, New York	Clarence J. Spain
Locascio, David	Research Training Program N.Y.S. Education Department Albany, New York	Louis T. Di Lorenzo
Hofmann, Richard	Department of Educational Psychology State Univ. of N.Y. at Albany Albany, New York	Leonard V. Gordon
Murdoch, L. Robert	Schenectady Public Schools Schenectady, New York	Clarence J. Spain

Intern	Location	Supervisor
O'Neal, Zenobia	School of Education State Univ. of N.Y. at Albany Albany, New York	Richard Clark
(2/68-1/69)		
Scott, Kathleen	Albany City Public Schools Albany, New York	Conwell Higgins
(9/68-6/69)		
Locascio, David	Schenectady Public Schools Schenectady, New York	Clarence J. Spain
Gould, Thomas	Research Training Program N.Y.S. Education Department Albany, New York	Louis T. Di Lorenzo
(7/69-6/70)		
Byrne, Carolyn	Utica Public Schools Utica, New York	John H. Rosenbach Paul Baker
Kelliher, Paul	Office of Research and Evaluation N.Y.S. Education Department Albany, New York	Leo Doherty
Spath, Guy	Research Training Program N.Y.S. Education Department Albany, New York	Louis T. Di Lorenzo Thomas F. Gould
Pruner, James	School of Education State Univ. of N.Y. at Albany Albany, New York	John H. Rosenbach
(9/70-6/71)		
Archer, Phillip	Office of Research and Evaluation N.Y.S. Education Department Albany, New York	Louis T. Di Lorenzo Robert O'Reilly
Itzkowitz, Michael	Schenectady Public Schools Schenectady, New York	Clarence J. Spain
Sewall, Michael	Office of Research and Evaluation N.Y.S. Education Department Albany, New York	Louis T. Di Lorenzo Robert O'Reilly

State University College at Brockport

Intern	Location	Supervisor
(6/69-7/70)		
Barry, G. Michael	Genesee Valley School Development Association Rochester, New York	Charles Walker
Messerich, Charles	Kodak Research Center Rochester, New York	Raymond Kicklighter
Miller, James	Educational and Cultural Center Syracuse, New York	Luton R. Reed
Ogle, Robert	Genesee Valley School Development Association Rochester, New York	Charles Walker
Throop, Robert	Educational and Cultural Center Syracuse, New York	Luton R. Reed
Titus, David	Gates Chili Central Sch. Dist. Rochester, New York	Frank Denshaw
Yoffredo, Ralph	Campus School State Univ. Coll. at Brockport Brockport, New York	Harry Emmerson
(9/70-12/70)		
Rasmussen, Peter	Board of Education of the Virgin Islands Charlotte Amalie, St. Thomas Virgin Islands	Philip Gerard
(9/70-6/71)		
Brown, David	Research Training Program State Univ. Coll. at Brockport Brockport, New York	Louis T. Di Lorenzo
Zillioux, M. Kathleen	Genesee Valley School Development Association Rochester, New York	Charles Walker
(9/71-6/72)		
Siebert, Robert	Research Training Program State Univ. Coll. at Brockport Brockport, New York	Louis T. Di Lorenzo

Intern	Location	Supervisor
Weaver, Francis	Horseheads Public Schools Horseheads, New York	Edward McHale
Zusman, Richard	Research Training Program State Univ. Coll. at Brockport Brockport, New York	Louis T. Di Lorenzo

Syracuse University

Intern	Location	Supervisor
(9/67-6/68)		
Harriger, James	Eastern Regional Institute for Education Syracuse, New York	Sidney M. Archer
Rossi, Dominic	Eastern Regional Institute for Education Syracuse, New York	Sidney M. Archer
(2/68-1/69)		
Pietropaolo, Joseph	Finger Lakes Regional Educational Center Homer, New York	Ernest Rookey
Regan, Frances	Educational and Cultural Ctr. Syracuse, New York	Nicholas Collis

Teachers College, Columbia University

Intern	Location	Supervisor
(9/67-6/68)		
Cinque, Carmela	Teachers College, Col. Univ. New York, New York	Howard Fehr
Barigliano, Leonard	Board of Cooperative Educational Services Yorktown Heights, New York	Benjamin Cohn
Gould, Thomas	Harcourt, Brace and World, Inc. New York, New York	Gary J. Robertson
Szczypkowski, Ronald	Bureau of Occupational and Vocational Research N.Y.S. Education Department Albany, New York	Louis Cohen

Intern	Location	Supervisor
(2/68-1/69)		
Franklin, Ellen	Teachers College, Col. Univ. New York, New York	Miriam Goldberg
Gitlitz, Alfred	Silver Burdett Division General Learning Corporation Morristown, New Jersey	Ira Singleton
McLaughlin, James	N.Y.C. Board of Education Brooklyn, New York	Leonard W. Ingraham
Shaffer, Michael	Harcourt, Brace and World, Inc. New York, New York	Harold Bligh
(7/69-6/70)		
Ellis, Ronald	Research and Demonstration Ctr. Teachers College, Col. Univ. New York, New York	Ross Evans
Greene, Martin	Research Training Program N.Y.S. Education Department Albany, New York	Louis T. Di Lorenzo Thomas Gould
Scheer, Jeffrey	The Psychological Corporation New York, New York	Jerome Doppelt Robert North

University of Rochester

Intern	Location	Supervisor
(9/67-6/68)		
Andrews, Gloria	Genesee Valley School Development Association Rochester, New York	Byron Williams
Kenny, J. Ruport	Genesee Valley School Development Association Rochester, New York	Byron Williams
Raub, J. Robert	Genesee Valley School Development Association Rochester, New York	Byron Williams
Walker, Charles	Genesee Valley School Development Association Rochester, New York	Byron Williams

Appendix G

Current Employment of Graduates, December 1971
Class of 1968

Institution	Res. Specialist	Current Employment
Fordham University	Abramson, Theodore	Assistant Professor Office of Institutional Res. & Program Evaluation The City Univ. of New York New York, New York
	Halpern, Shelly	Program Associate College Entrance Exam. Bd. New York, New York
	Harckham, Laura	Assistant Professor Manhattan College New York, New York
	Katz, Alexander	School Research Assistant N.Y.C. Board of Education Brooklyn, New York
New York University	Shea, James	Teacher, 6th Grade Levittown, New York
St. John's University	Gorman, Sr. Helen*	Research Assistant Division of Educ. Technology New York University New York, New York
SUNY at Albany	Hayden, Robert	Director, Resource Center Guilderland School District Guilderland, New York
	Hofmann, Richard	Associate Professor Dept. of Educ. Psychology Miami University of Ohio Oxford, Ohio
SUNY at Albany (cont.)	Murdoch, L. Robert	School Psychologist Bd. of Coop. Educ. Services Saratoga Springs, New York
	O'Neal, Zenobia	Unemployed--housewife
Syracuse University	Harriger, James	Unemployed--physically disabled
	Rossi, Dominic	Unemployed
University of Rochester	Andrews, Gloria	Evaluator of Ungraded Prog. Harris Hill Elementary Sch. Penfield, New York
	Kenny, J. Ruport	Research Specialist Urban Education Planning Off. Rochester Public Schools Rochester, New York
	Raub, J. Robert	Director, Teacher Education Robert Wesleyan College Rochester, New York
	Walker, Charles	Area Coordinator Central Western Regional Off. for Educational Planning Rochester, New York
Teachers College, Col. Univ.	Cinque, Carmela	Principal Elementary School Bronx, New York

Current Employment of Graduates, December 1971
Class of 1968 (cont.)

Institution	Res. Specialist	Current Employment	Institution	Res. Specialist	Current Employment
Teachers College, Col. Univ. (cont.)	Garigliano, Leonard	Elementary Science & Math Consultant Tenafly Public Schools Tenafly, New Jersey			
	Gould, Thomas	Principal Ballston Spa Intermediate School Ballston Spa, New York			
	Szczypkowski, Ronald	Visiting Professor Graduate Institute for Religious Education Fordham University New York, New York			

*Employment as of June 1971.

Current Employment of Graduates, December 1971
Class of 1969

Institution	Res. Specialist	Current Employment
Fordham University	Polk, Virginia	Unemployed--Housewife
	Rivera, Luis	Director, Title III Bilingual Preschool Program New York, New York
	Spollen, Joseph	Associate Professor of Educ. State University College Cortland, New York
	Strum, Irene	Research Associate District #8 New York, New York
Hofstra University	Balletta, Robert	Teacher No. Babylon Public Schools No. Babylon, New York
	Cohen, Edward	Supervisor of Research Nassau County Bd. of Coop. Educ. Services Jericho, New York
	Murphy, Dennis	Director, Arts Program Mineola Public Schools Mineola, New York
	Simon, Alan	Instructor of Research Department of Education Queens College, CUNY Flushing, New York
	Wood, Edwin	Principal Noah Wallace School Farmington, Connecticut
Hofstra University (cont.)	Woog, Pierre	Administration & Research Associate Bureau of Educ. Evaluation Hofstra University Hempstead, New York
New York University	Carson, John	Research Associate Minnesota Higher Education Coordinating Commission St. Paul, Minnesota
St. John's University	Keller, Joan	Instructor of Education Adelphi University Garden City, New York
SUNY at Albany	Locascio, David	Associate Professor or Educ. Fairleigh Dickinson Univ. Rutherford, New Jersey
	Scott, Kathleen*	Instructor Hudson Valley Comm. College Troy, New York
Syracuse University	Pietropaolo, Joseph	Doctoral Student Department of Educ. Psychology Syracuse University Syracuse, New York
Teachers College, Col. Univ.	Franklin, Ellen*	Instructor Beginning Reading Program Teachers College, Col. Univ. New York, New York

Current Employment of Graduates, December 1971
Class of 1969 (cont.)

Institution	Res. Specialist	Current Employment	Institution	Res. Specialist	Current Employment
Teachers College, Col. Univ. (cont.)	Gitlitz, Alfred	Assistant Director of Research College Entrance Exam. Board New York, New York			
	McLaughlin, James	School Research Assistant Bureau of Educational Research N.Y.C. Board of Education Brooklyn, New York			
	Shaffer, Michael	Division Coordinator Test Department Harcourt Brace & Jovanovich New York, New York			

*Employment as of June 1971.

Current Employment of Graduates, December 1971
Class of 1970

Institution	Res. Specialist	Current Employment
City College, The City Univ. of New York	Neckers, Fred	Teacher Brentwood Public Schools Brentwood, New York
	Rosensweig, Larry*	Doctoral Student The City Univ. of New York New York, New York
	Roth, William	Teacher, Math Bronx Community College Bronx, New York
	Storte, John	U.S. Postal Service White Plains, New York
Fordham University	Flynn, Mary	Supervisor of Research Nassau County Bd. of Coop. Educational Services Jericho, New York
	Manchester, Harry*	Doctoral Student School of Education Fordham University New York, New York
	Oxman, Wendy	Director Institute for Research & Evaluation Fordham University New York, New York
Hofstra University	Kay, Claire*	Teacher, 5th Grade Merrick Public Schools Merrick, New York
Hofstra University (cont.)	Schnide, Helen*	Teacher, 4th Frade Seamaneck School Massapequa, New York
St. John's University	DiCesare, Vito	Principal Sargent School Beacon, New York
	Reilly, William	Director of Guidance Bayport-Blue Point Public Schools Bayport, New York
	Sullivan, Raymond	N.Y.C. Regional Manager Testing Department Harcourt Brace & Jovanovich New York, New York
	Zygadlo, Henry	Director of Research and Program Development Connetquot Cen. Sch. Dist. Bohemia, New York
SUB at Brockport	Barry, G. Michael	Assistant Professor Educational Research Center Tulane University New Orleans, Louisiana
	Messerich, Charles	Assistant Director Div. of Planning & Research Rochester School District Rochester, New York

Current Employment of Graduates, December 1971
Class of 1970 (cont.)

Institution	Res. Specialist	Current Employment
SUC at Brockport (cont.)	Miller, James	Planner Educational & Cultural Center Syracuse, New York
	Ogle, Robert	Redesign Coordinator Finger Lakes Regional Educ. Center Cortland, New York
	Throop, Robert	Executive Secretary North Country School Study Council Potsdam, New York
	Titus, David	Associate Director Catskill Regional Office for Educational Planning Oneonta, New York
	Yoffredo, Ralph	Associate Director Genesee Valley School Development Association Rochester, New York
SUNY at Albany	Byrne, Carolyn	Assistant in Educ. Testing N.Y.S. Education Department Albany, New York
	Kelliher, Paul	Evaluator, Title I Programs Albany Public Schools Albany, New York
	Pruner, James	Unable to locate
SUNY at Albany (cont.)	Spath, Guy	Assistant in Educ. Research N.Y.S. Education Department Albany, New York
Teachers College, Col. Univ.	Ellis, Ronald*	Doctoral Student Teachers College, Col. Univ. New York, New York

*Employment as of June 1971.

Current Employment of Graduates, December 1971
Class of 1971

Institution	Res. Specialist	Current Employment
City College, The City Univ. of New York	Brogan, John	Teacher, 8th Grade Yorktown Junior High School Yorktown Heights, New York
	Spadafora, Raymond	Assistant Principal Saratoga Springs Public Sch. Saratoga Springs, New York
Fordham University	Butler, Sr. Loretta	Research Assistant Mineola Arts Project Mineola Public Schools Mineola, New York
Hofstra University	Behan, Wallace	Project Coordinator Nassau County Bd. of Coop. Educational Services Jericho, New York
	Mulcahey, Thomas	Teacher, Elementary Levittown Public Schools Levittown, New York
St. John's University	Goldberg, Melvin	Research Associate Institute for Educational Development New York, New York
	Millar, Eric	Assistant Director of Research & Evaluation School District #23 Brooklyn, New York
SUC at Brockport	Brown, David	Research Assistant Dept. of Educational Research SUC at Brockport Brockport, New York
	Rasmussen, Peter	Teacher Chili Central School District Rochester, New York
	Zillioux, Kathleen	Research Assistant Central New York School Study Council Syracuse University Syracuse, New York
SUNY at Albany	Archer, Philip	Instructor Department of Education Wake Forest University Winston-Salem, No. Carolina
	Itzkowitz, Michael	Teacher Washingtonville High School Washingtonville, New York
	Sewall, Michael	Instructor Department of Psychology Mohawk Valley Comm. College Utica, New York

Appendix H

Research Training Program Enrollment
by Institution and Year

Institution	ACADEMIC YEAR					
	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72
The City University of New York			MacDougal, Roy Neckers, Fred Rosensweig, Larry Roth, William Storte, John	Brogan, John Neckers, Fred Rosensweig, Larry Roth, William Storte, John Spadafora, Ray	Brogan, John Spadafora, Raymond	
Fordham University	Abramson, Theodore Halpern, Shelly Harckham, Laura Katz, Alexander Petrucelli, Filome a Paul, Carrie	Abramson, Theodore Halpern, Shelly Harckham, Laura Katz, Alexander Martz, Antoinette Polk, Virginia Rivera, Luis Spollen, Joseph Strum, Irene	Flynn, Mary Manchester, Harry Oxman, Wendy Strum, Irene Polk, Virginia Rivera, Luis Spollen, Joseph	Flynn, Mary Manchester Harry Oxman, Wendy Caryl, Mary Butler, Sr.Loretta	Butler, Sr.Loretta	
Hofstra University		Balletta, Robert Cohen, Edward Erviti, Vivian Murphy, Dennis Sanna, Margaret Simon, Alan Wood, Edwin Woog, Pierre Kay, Claire	Balletta, Robert Cohen, Edward Schnide, Helen Murphy, Dennis Sanna, Margaret Simon, Alan Wood, Edwin Woog, Pierre	Kay, Claire Schnide, Helen Behan, Wallace Brown, Rita Mulcahey, Thomas	Behan, Wallace Brown, Rita Mulcahey, Thomas	
New York University	Gorman, Sr.Marie Shea, James	Petrucelli, Filomena Shea, James Breen, John Cahill, Dennis Carson, John Cordero, Loidis Lee, William Rosenberg, Arthur	Carson, John			

Research Training Program Enrollment
(continued)

Institution	ACADEMIC YEAR					
	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72
St.John's University	Keller, Joan Barz, Anita	Keller, Joan Gorman, Sr.Marie DiLorenzi, Francis Arbital, Samuel	Breen, Joseph DiCesare, Vito Reilly, William Sullivan, Raymond Zygadlo, Henry	DiCesare, Vito Reilly, William Sullivan, Raymond Zygadlo, Henry Costello, Barbara Epstein, Anatol McCabe, Eileen Goldberg, Melvin Millar, Eric	Goldberg, Melvin Millar, Eric	
State Univ. of New York at Albany	Hayden, Robert Hoffman, Richard Murdock, Robert O'Neal, Zenobia Sunshine, Leo Oppedisano, Joseph	Hayden, Robert Hoffman, Richard Murdock, Robert O'Neal, Zenobia Locascio, David Scott, Kathleen	Byrne, Carolyn Kelliher, Paul Pruner, James Spath, Guy Locascio, David Scott, Kathleen	Byrne, Carolyn Kelliher, Paul Pruner, James Spath, Guy Archer, Philip Draper, Roger Itzkowitz, Michael Greene, Harold Sewall, Michael	Archer, Philip Greene, Harold Itzkowitz, Michael Sewall, Michael Phillips, Forman	
State Univ. College at Brockport			Barry, George Messerich, Charles Miller, James Ogle, Robert Shisler, Clifford Throop, Robert Titus, David	Barry, George Messerich, Charles Miller, James Ogle, Robert Throop, Robert Titus, David Yoffredo, Ralph Brown, David Rasmussen, Peter Talbot, Thomas Wade, Michael Zillioux, Mary	Brown, David Rasmussen, Peter Talbot, Thomas Zillioux, Mary Siebert, Robert Weaver, Francis Zusman, Richard Dorwart, James	Siebert, Robert Weaver, Francis Zusman, Richard Dorwart, James Kaman, Carol Lamberts, Julie
Syracuse University	Harriger, James Rossi, Dominic	Harriger, James Rossi, Dominic Pietropaolo, Joseph Regan, Frances	Pietropaolo, Joseph			

Research Training Program Enrollment
(continued)

Institution	ACADEMIC YEAR					
	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72
Teachers College, Columbia University	Garigliano, Leonard Gould, Thomas Szczypkowski, Ronald Cinque, Carmela	Garigliano, Leonard Gould, Thomas Szczypkowski, Ronald Cinque, Carmela Franklin, Ellen Gitlitz, Alfred McLaughlin, James Shaffer, Michael	Franklin, Ellen Gitlitz, Alfred McLaughlin, James Shaffer, Michael Ellis, Ronald Greene, Martin Scheer, Jeffrey Shelton, Joan	Ellis, Ronald Green, Martin Karpik, Sr. Mary		
University of Rochester	An[illegible], Gloria Kenny, Ruport Raub, Robert Walker, Charles	Andrews, Gloria Kenny, Ruport Raub, Robert Walker, Charles				
TOTAL	26	51	48	49	21	6

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
ALBANY, NEW YORK 12224

LORNE H. WOOLLATT
ASSOCIATE COMMISSIONER FOR RESEARCH AND EVALUATION

WILLIAM D. FIRMAN
ASSISTANT COMMISSIONER FOR RESEARCH AND EVALUATION

DIVISION OF EVALUATION
ALAN G. ROBERTSON
DIRECTOR
518: 474-3236

BUREAU OF URBAN AND COMMUNITY PROGRAMS EVALUATION
LEO D. DOHERTY, CHIEF
518: 474.7277, 6325

Appendix I

Graduate Questionnaire on Employment and Attitudes

The Bureau of Urban and Community Programs Evaluation has been assigned the responsibility of developing a 5 year evaluation report to the U. S. Office of Education of the "Program for Training Educational Research Personnel for School Service."

Since you were a participant in this Research Training, the Bureau would greatly appreciate your responses to the questionnaire enclosed. The few moments it will take to complete the questionnaire will provide this Bureau with valuable background and current data to be included in the report. Since the Bureau is under pressure to submit this report very soon, your prompt attention would be appreciated.

If you have any questions regarding the questionnaire, please do not hesitate to contact me or Mrs. Mary Horan at 474-6325 or 474-3888.

Sincerely,

Leo D. Doherty

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Bureau of Urban and Community Programs Evaluation

Name:

Address:

Institution at which you were a participant in the program:

Dates:

Program Director:

Please return to: Mrs. Mary Horan
State Education Department
Bureau of Urban & Community Programs Evaluation
Washington Avenue
Room 462
Albany, New York 12224

1. Employment History

a. Description and location and approximate salary of employment before entrance into the program.

b. Description (major duties), location, and approximate salary of employment after completion of program.

c. Description (major duties) and location of employment currently (if different from b).

d. If engaged in evaluation and/or research activities, please give approximate percent of time spent on each duty, as listed in either b and/or c.

e. Employment expectations (what are your major employment goals) how do they differ from those when you entered the program?

2. Academic Status

a. Highest degree held (date and name of institution awarding degree).

_____

_____

b. If additional courses were taken after completion of the training program, please indicate name of course, credit hours, and name of institution where taken.

_____

_____

_____

c. Number and type of certificates (if any) you hold.

_____

_____

_____

3. Program Attitudes

a. In view of your current employment, of what relevance was the training program?

high _____ explain _____

medium _____ explain _____

low _____ explain _____

b. Are there any current research and/or evaluation problems with which you are dealing for which you feel the program did not adequately train you?

_____

_____

_____

c. Have your attitudes toward the program changed since you completed your training? (if so, in what respect)

_____

_____

_____

d. What changes would you recommend to strengthen the Research Training Program?

_____

_____

_____

e. What was the most valuable part of the Research Training Program?

_____

_____

_____

f. Did you believe that the program would offer you more than you actually received?

_____

_____

4. Publications

A. Have you authored (individually or jointly) any articles on research and/or evaluation or in the general field of education since you completed the program (please give appropriate bibliographical data)?

1. _____

2. _____

3. _____

4. _____

B. What studies (supported by federal (e.g. Title I), state (e.g. Urban Ed.), local funds or others) have you conducted since completion of the program (please give appropriate bibliographical data)?

1. _____

2. _____

3. _____

4. _____

C. If you have made any presentations at conferences, please list with titles and dates and name of conference.

1. _____

2. _____

3. _____

4. _____

DOCUMENT RESUME

ED 073 128 TM 002 372

AUTHOR Linn, Robert L.
TITLE Some Implications of the Griggs Decision for Test Makers and Users.
INSTITUTION Educational Testing Service, Princeton, N.J.
REPORT NO ETS-RM-72-13
PUB DATE 11 Nov 72
NOTE 16p.; Paper presented at the Conference on Equal Employment Opportunity and Psychological Testing, New York, November 11, 1972

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Court Litigation; Culture Free Tests; Employment Qualifications; *Equal Opportunities (Jobs); Minority Groups; Negroes; *Personnel Selection; Promotion (Occupational); *Test Bias; *Test Construction; *Test Selection; Test Validity
IDENTIFIERS *Civil Rights Acts of 1964 Title VII

ABSTRACT

The "Griggs vs. Duke Power" decision of the Supreme Court specifies that job relatedness is the only lawful reason for using tests for the purpose of selection when their use results in the disproportionate exclusion of minority group members. One of the main implications of the "Griggs" decision for the test producer and user alike is a renewed emphasis on sound practices of employee selection. The producer of employment tests must put more effort into job analysis activities, criterion development activities, and criterion related validity studies. Another general concern for the test publisher is about certain characteristics of the test or its administration that are irrelevant to the specific abilities being measured but which depress scores for members of one group. Another consideration is that of differential validity studies. There is more than one reasonable definition of test fairness, and these definitions are in conflict; thus, competing values must be weighed. The test maker cannot resolve the problem of competing values, but he can provide the test user with information that will make explicit the value implications of various uses of tests. Two figures illustrate Thorndike's alternate definition of culture fairness. (DB)

RESEARCH MEMORANDUM

RM-72-13

SOME IMPLICATIONS OF THE GRIGGS DECISION FOR TEST MAKERS AND USERS

Robert L. Linn

Paper presented at the Conference on Equal Employment Opportunity and Psychological Testing, sponsored by the Metropolitan Applied Research Center, Inc., Barbizon Plaza Hotel, New York, November 11, 1972.

Educational Testing Service
Princeton, New Jersey
December 1972

Some Implications of the Griggs Decision for Test Makers and Users

Robert L. Linn

In the Griggs vs. Duke Power decision the Supreme Court clearly identified job-relatedness as the only lawful reason for using tests for the purpose of selection when their use results in the disproportionate exclusion of minority group members. In the unanimous decision delivered by Chief Justice Burger, he wrote: "If an employment practice which operates to exclude Negroes cannot be shown to be related to job performance, the practice is prohibited."[1] Where tests are demonstrated to be job related, however, the Griggs decision makes it clear that tests are judged to be legal and useful. In the words of Chief Justice Burger, "Nothing in the [Civil Rights] Act [of 1964, Title VII] precludes the use of testing or other measuring procedures; obviously they are useful .... What Congress has commanded is that any tests used must measure the person for the job and not the person in the abstract."[2]

The necessity of demonstrating job-relatedness is clear, but the evidence that is required for the demonstration is less clear. The EEOC Guidelines on Employment Selection Procedures[3] and some of the litigation following the Griggs decision help identify the type of evidence that will probably be required. The EEOC Guidelines are given specific support in the Griggs decision where it is argued that there is "...good reason to treat the Guidelines as expressing the will of Congress."[4] Given this support, the Guidelines would seem to be the natural place for the employer, the test producer, and the personnel psychologist to turn in order to insure that the use of tests for employee selection or promotion is consistent with the requirements of the Civil Rights Act of 1964.

The Guidelines stress the importance of careful job analysis. The job analysis provides the basis for test selection. It also may provide the basis for defending the rational validity of the test or, preferably, the development of appropriate criterion measures to be used in the empirical investigation of criterion-related validity. Bill Enneis has pointed out that the Guidelines "...embody the substance of good personnel employment practices as recommended by experts in industrial psychology and personnel administration for the past forty or fifty years."[5] I'm in general agreement with this evaluation. The reader of the Guidelines can certainly find much in common with professionally accepted prescriptions for personnel selection. While generally agreeing with this position, Guion has identified two aspects of the Guidelines that seem to be new but not "...especially heretical to orthodox testers."[6] The two new features are (1) an expanded definition of tests and (2) the emphasis on independent validation for minority groups (i.e., the emphasis on differential validity studies). I'll have more to say about the emphasis on differential validity a bit later.

From the above perspective, one of the main implications of the Griggs decision for the test producer and the user alike is a renewed emphasis on sound practices of employee selection. It is no longer sufficient to use a test because it reliably measures general ability. It must be shown that the test is measuring an attribute that is important for successful job performance. In some cases professionally developed tests of performance (e.g., a typing test) may stand on the rational relationship of the performance to the analysis of the job. For more general ability tests, however, criterion-related validity or a strong combination of construct validity coupled with an analysis of the importance of the constructs to job performance will probably be required.

To provide the necessary backup for test users the producer of employment tests is going to have to put more effort into job analysis activities, criterion development activities, and criterion related validity studies than many of them have done in the past. For many, if not most jobs, however, the magnitude of the effort that is required is tremendous. Judging from the ETS-Civil Service Commission study of three occupations that was directed by Joel Campbell,[7] it seems unreasonable to expect that the typical local situation will permit the kind of comprehensive study that might be desired. Careful attention to comprehensive job analyses, which were used to develop objective criterion measures and select tests that measured abilities that were judged to be important for good performance on the job, paid off in impressive validities in Campbell's study. However, that study required several years to accomplish as well as substantial support from the Ford Foundation, the close cooperation of the Civil Service Commission, and contributions from a number of ETS and Civil Service staff members. Reflection on the magnitude of the effort in Campbell's study in contrast to the resources that are typically available in the real-life personnel situation led Anastasi to ask: "In a more nearly typical personnel situation, what...can be done to ensure that selection tests are truly valid, or relevant to the job?"[8] In response to her own question Anastasi answered: "For this purpose...I would turn to a thorough, professional job analysis, followed by a study of the published findings regarding the validity of different tests against specific job functions."[9] She urged "... that more effort be expended on basic research regarding the specific aspects of behavior measured by different instruments and less on inadequate, inconclusive, local validation studies against global criteria of job performance."[10] I

would heartily endorse this position. It seems to me to be very consistent with both the need for better construct validity and Lawshe's notion of synthetic validity.[11] It also suggests an important role for the test producer, namely, that of providing the necessary research base required to understand the aspects of behavior that are measured by their instruments so that the personnel psychologist will have a sound basis for using his job analysis to select tests.

While obviously stimulated by the need to ensure that employment tests are used appropriately with minority groups, the above concerns and recommendations are actually quite general and should apply to all testing--not just testing of minority group members. Another general concern for the test publisher that is given salience by questions of equal employment opportunities for minority group members is the concern about certain characteristics of the test or its administration that are irrelevant to the specific abilities being measured but which depress scores for members of one group. The classic example is the test that requires considerable verbal ability or has difficult reading requirements when these are not the skills that are being measured. The context of the test items or specific words may be more familiar to one group than another, and where these factors are not essential to the attribute being measured, they should be eliminated. One way to ensure this is for the test producers to obtain the input from representatives of the various groups who will be taking the test. In other words, minority group members need to be represented in all phases of the test construction process (e.g., test specifications, item writing, and reviews of the test). Comparative item analyses for different groups of people are also potentially useful for this purpose.

Another consideration is that of differential validity studies. As was mentioned earlier, the EEOC Guidelines stress the importance of such studies. "Data must be generated and results separately reported for minority and nonminority groups wherever technically possible."[12] I would not argue against the desirability of differential validity studies where feasible; however, it may be worthwhile to consider the implication of evidence that is accumulating from the differential validity studies that have been conducted to date. Obviously the evidence is not complete, but a fairly substantial number of studies have been conducted in the past few years.

At the recent meetings of the American Psychological Association, William Ruch reviewed differential validity studies that were conducted in a nonmilitary business or industrial situation and that had separate statistics reported for blacks and whites which permitted him to test for homogeneity of regression for the two groups. He also required that race not be confounded with some other variable (e.g., blacks working for one company and whites for another). From his analyses, Ruch concluded: "Certainly these 20 studies do not tell the whole story. The evidence they do provide is that there is no such thing as differential validity but there is a tendency of tests to overestimate black job performance."[13]

Ruch is by no means the only person to conclude that tests which are valid for one group are usually valid for the other (i.e., differential validity is rare) and that where differences in the prediction systems are found, the predictions based on the total group usually tend to overestimate rather than underestimate minority group performance on the criterion. For example, this conclusion is reached by Bray and Moses in their chapter in the 1972 Annual Review of Psychology,[14] and is one of the clear results of Campbell's Civil Service Study[15] which I mentioned

previously. In a military setting, a similar conclusion is reported by Guinn, Tupes and Alley,[16] and in an educational setting the tendency is also found to be in the direction of overprediction.[17]

Inasmuch as the overprediction finding is valid, it has implications that could run counter to one of the intents of the Civil Rights Act and to the reason for stressing differential validity studies in the Guidelines. If cutoff scores are "...set so as to predict the same probability of success in both groups"[18] as the Guidelines suggest, and the majority group regression line overpredicts for the minority group, the cutoff score would be set higher for the minority group than for the majority group. Thus, the differential validity concept which was intended to have a favorable influence on the employment of minority group members could be used to defend a policy that actually excluded more minority group members than would have been the case previously.

There are many reasons why the above use of such differential validity study results should be emphatically rejected. Wernimont and I have argued elsewhere that there are statistical and psychometric reasons that could lead one to expect the overprediction result.[19] These are: (1) the failure to include a variable in the prediction system on which the groups differ and (2) the lack of perfect test reliability. There are also less subtle artifacts that could cause the overprediction result, for example, the criterion variable itself may not be free of bias. This is a particularly plausible explanation when supervisor ratings are used as the criterion variable.

In my view, however, there is a still more important reason for rejecting the possible implication of differential validity results that higher cutoff scores be required of the minority group than the majority

group. This reason is that the maximization of performance on the job is only one value that needs to be attended to, and perhaps not the most important one.

The usual definition of test fairness in terms of equal regression equations is fair to the institution in the sense that it provides the institution with a way of selecting people such that the average criterion score of those selected is a maximum. It is also "fair" to individual members of the two groups in that the criterion performance is not systematically over- or underpredicted for members of either group. Nonetheless, Thorndike clearly demonstrated that a test which has equal regression equations for the two groups "...is 'unfair' to the lower scoring group as a whole in the sense that the proportion qualified on the test will be smaller, relative to the higher-scoring group, than the proportion that will reach any specified level of criterion performance."[20]

Thorndike has argued persuasively that the traditional way of looking at test fairness in terms of equality of the prediction systems is not the only perspective that should be considered. The problem with the traditional definition that Thorndike has so clearly identified is illustrated in Figure 1. In Figure 1 a situation is depicted in which the regression of the criterion on the test is identical in the two groups (shown by the solid line with a slope equal to .25). Thus, the test would be considered "fair" from the traditional psychometric point of view and according to the Guidelines. Note, however, that the difference in means on the test is substantially larger than the difference on the criterion variable.

Insert Figure 1 about here

Now suppose for purposes of illustration that the mean of group A on the criterion variable corresponded to what was considered minimum acceptable performance (i.e., those with criterion scores above that point are considered successes and those below it are considered failures). As can be seen in Figure 1, about 50% of the hypothetical group A have criterion scores above this cutting point and about 20% of group B (shaded area of the group B distribution curve) have criterion scores above the cutting point. Since criterion scores are not known in advance, it is the predicted criterion scores that are used for selection. If only those individuals with predicted scores equal to the success-failure point on the criterion variable were accepted, then approximately 50% of group A would be accepted but essentially none of the group B members would be accepted. This is the phenomenon that Thorndike was referring to when he said that while the traditional approach with equal regression equations is "fair" to individual members of the minor group, it is "unfair" to the minor group as a whole, "...in the sense that the proportion qualified on the test, relative to the higher scoring group, will be smaller than the proportion that will reach any specified level of criterion performance."[21] In the illustration depicted in Figure 1, the relative proportions in groups A and B that are qualified on the test are .50 and essentially zero, respectively, whereas the proportions above the success-failure point on the criterion variable are approximately .50 and .20 respectively.

Thorndike proposes that: "An alternate definition [of fairness] would specify that the qualifying scores on the tests should be set at levels that will qualify applicants in the two groups in proportion to the fraction of the two groups reaching a specified level of criterion performance."[22] Thus, we have two conflicting definitions of fairness. The

only time that the equal regression definition and Thorndike's definition are in agreement is when the validity is perfect. This unrealistic case is depicted by the 45% line in Figure 2. With perfect validity and the same regression equation in both groups, the relative proportions qualified on the test (i.e., above the accept-reject point in Figure 2) are equal to the relative proportions that are successful (i.e., above the success-failure point in Figure 2).

Insert Figure 2 about here

The requirement that an equal proportion of each group be accepted as would be successful also could be satisfied by a situation where the regression line for the group B lies below the one for group A (i.e., the group A equation overpredicts for group B) but the cutting score appropriate for group A is used to select within both groups. This situation is also depicted in Figure 2 by the two parallel lines with slopes of .25.

In summary, Thorndike has identified a flaw in the traditional definition of "fairness." His formulation suggests that we should be looking at the implications for the proportions of students admitted as well as the regression lines. For a case with the same regression equations as that illustrated in Figure 1, different cutting scores would be required to make the proportions qualified on the test equal to the proportions successful on the criterion. In particular, a lower cutting score on the test would be required for the hypothetical group B in Figure 1 in order to satisfy Thorndike's alternate definition.

The problem that Thorndike identified is implicit in some earlier discussions. For example, Cooper and Sobel seem to be referring to this problem in their discussion of tests with low, but significant, validity. They argue that where such tests have an "...adverse impact on blacks, use of test scores as a major factor in employment decisions is likely to be unnecessarily prejudicial to blacks."[23] More than one sense of fairness seems implicit in Cooper and Sobel's comment.

In my opinion, Thorndike's main contribution is that of making it explicit that there is more than one reasonable definition of test fairness and that these definitions are in conflict. Thus, we must look beyond a simple technical resolution of the problem. Competing values must be weighed. Errors of selecting individuals who are unsuccessful and errors of rejecting applicants who would be successful must be weighed for members of minority groups and for members of the majority group. The former error is of prime concern in some employee selection situations where mistakes on the job can be very costly or even disastrous (e.g., the selection of pilots). In many situations, however, the latter type of error may be of greater concern. The test maker cannot resolve the problem of competing values, but he can provide the test user with information that will make explicit the value implications of various uses of tests.

Footnote

[1]United States Supreme Court, Griggs vs. Duke Power, March 8, 1971.

[2]Ibid.

[3]Equal Employment Opportunity Commission. Part 1607-Guidelines on Employee Selection Procedures. Code of Federal Regulations, Title 29, Chapter XIV, 1970.

[4]United States Supreme Court, op.cit.

[5]Enneis, W. H. Statement before the House Post Office and Civil Service Subcommittee. Reprinted in B. R. Anderson and M. P. Rogers (Eds.), Personnel Testing and Equal Employment Opportunity. Washington, D. C.: U. S. Government Printing Office, 1970. Pp. 16-20.

[6]Guion, R. M. Recruiting selection and job placement. In M. D. Dunnette (Ed.), Handbook of Industrial and Organizational Psychology, Chicago, Illinois: Rand McNally (in press).

[7]Campbell, J. T. Principal results of study and conclusions. In Lois Crooks (Ed.), An investigation of sources of bias in the prediction of job performance....a six year study. Proceedings of Invitational Conference held June 22, 1972, New York. Princeton, New Jersey: Educational Testing Service, 1972. Pp. 9-77.

[8]Anastasi, Anne. Sources of bias in the prediction of job performance: Technical critique. In Lois Crooks (Ed.), An investigation of sources of bias in the prediction of job performance. ..a six year study. Proceedings of Invitational Conference held June 22, 1972, New York. Princeton, New Jersey: Educational Testing Service, 1972. Pp. 79-88 (p. 87).

[9]Ibid. Pp. 87-88.

[10]Ibid. P. 88.

[11]Lawshe, C. H. Employee Selection. Personnel Psychology, 1952, 5. Pp. 31-34.

[12]Equal Employment Opportunity Commission, op.cit.

[13]Ruch, W. W. A re-analysis of published differential validity studies. Paper presented at the Symposium on: Differential Validation under EEOC and OFCC Testing and Selection Regulations, American Psychological Association, Honolulu, Hawaii, September 6, 1972.

[14]Bray, D. W. & Moses, J. L. Personnel selection. Annual Review of Psychology, 1972, 23. Pp. 545-576.

[15]Campbell, J. T., op.cit.

[16]Guinn, N., Tupes, E. C. & Alley, W. E. Cultural subgroup differences in the relationships between Air Force aptitude composites and training criteria. (Technical Report 70-35.) Lackland Air Force Base, Texas: Human Resources Research Center, September 1970.

[17]Cramer, S. & Stevic, R. R. A review of the 1971-72 literature: Research on the transition from high school to college. College Board Review, 1972, 85. Pp. 32-38.

[18]Equal Employment Opportunity Commission, op.cit.

[19]Linn, R. L. & Werts, C. E. Considerations for studies of test bias. Journal of Educational Measurement, 1971, 8. Pp. 1-4.

[20]Thorndike, R. L. Concepts of culture-fairness. Journal of Educational Measurement, 1971, 8. Pp. 63-70 (p. 63).

[21]Ibid. P. 63.

[22]Ibid. P. 63.

[23]Cooper, G. & Sobel, R. B. Seniority and testing under fair employment laws: A general approach to objective criteria. Harvard Law Review, 1969, 82. Pp.1598-1679 (p. 1663).

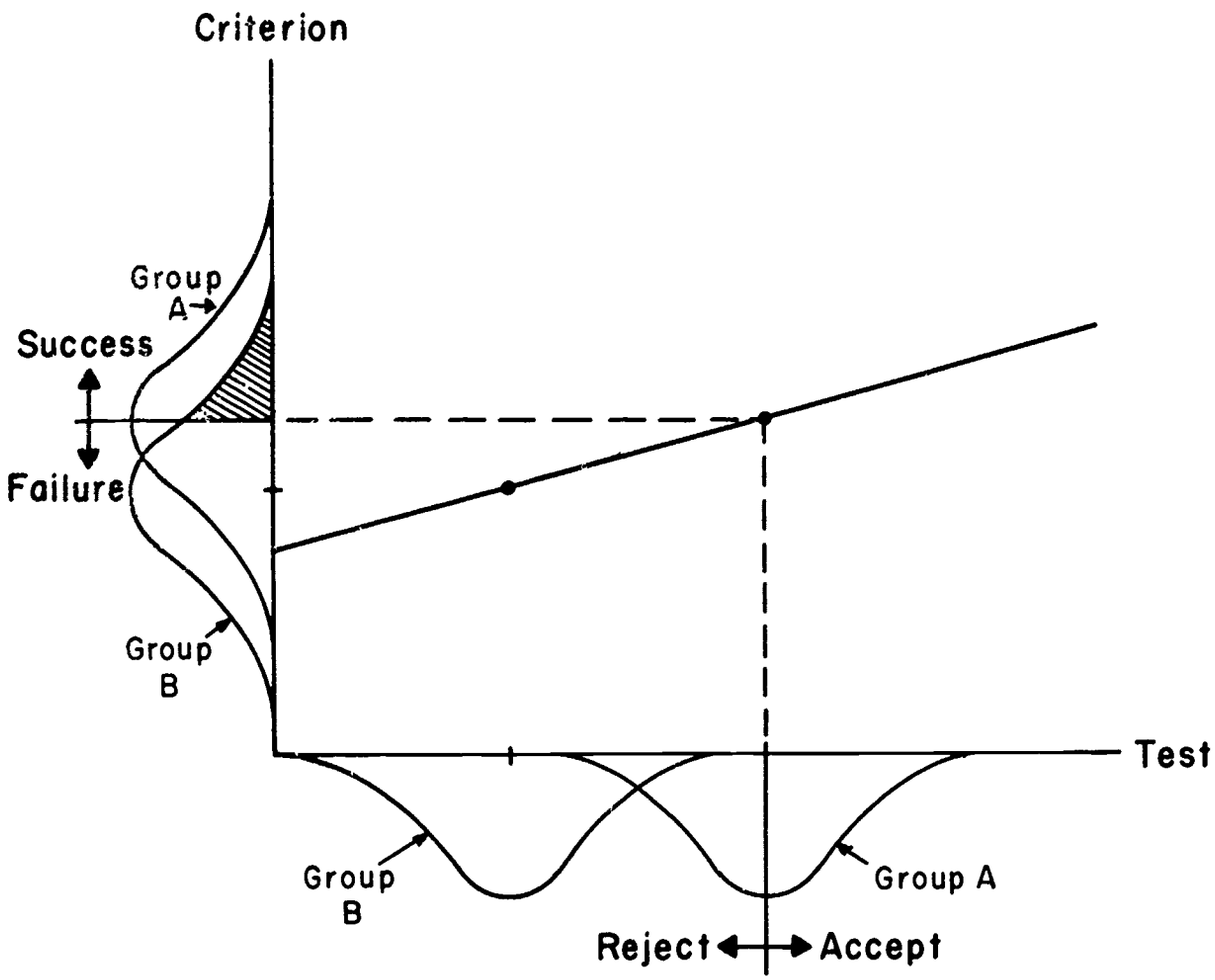


Figure 1
Illustration of Thorndike's Alternate Definition
of Culture Fairness

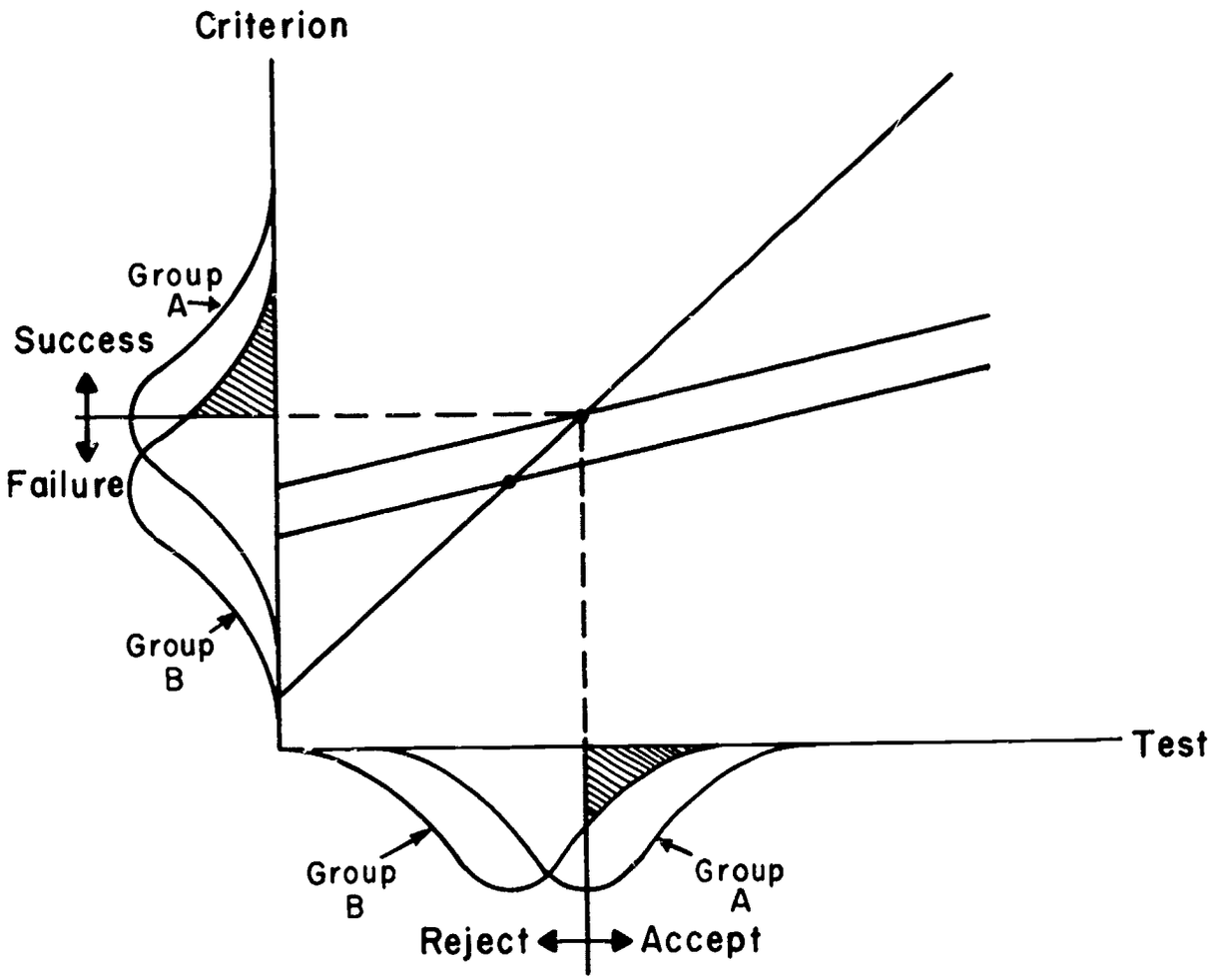


Figure 2

Illustration of Thorndike's Alternate Definition of Culture Fairness