DOCUMENT RESUME

ED 074 593

EA 004 860

TITLE	Innovation and Change: A Study of Strategies in Selected Projects Supported by the National Center for the Improvement of Educational Systems. Final Report. Volume III: Results and Policy Recommendations.
INSTITUTION	Abt Associates, Inc. Cambridge, Mass.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C. Office of Planning, Budgeting, and Evaluation.
PUB DATE	22 Dec 72
CONTRACT	OEC-0-71-3714
NOTE	173p.
EDRS PRICE	MF-$0.65 HC-$6.58
DESCRIPTORS	Career Opportunities; *Case Studies; Early Childhood Education; *Educational Change; *Educational Innovation; Educational Programs; Methodology; Program Descriptions; *Program Evaluation; *Research Methodology; School Personnel; Special Education; Teacher Education; Teachers
IDENTIFIERS	*National Center Improvement Educational Systems; NCIES

ABSTRACT

This is the third of five documents compiled to report on the problem of innovation and change in the context of projects supported by the National Center for the Improvement of Educational Systems (NCIES). This volume discusses the variables and analytic procedures used, the study findings, the policy recommendations coming from the study, and implications from the study for educational innovations. Also examined are the relations of the project to institutions of higher education, the organizational characteristics of the project, the project's training curriculum and practicum, the relations of the trainees to the project, and the relation of the project to local education agencies. Related documents are EA 004 857 and EA 004 858. (Pages 44-50 of Appendix A may reproduce poorly.) (Author/DN)

ABT ASSOCIATES INC.
55 WHEELER STREET, CAMBRIDGE, MASSACHUSETTS 02138
TELEPHONE • AREA 617-492-7100
TELEX: 710-320-6367

Prepared for:

THE OFFICE OF EDUCATION
Office of Planning, Budgeting and Evaluation
400 Maryland Avenue, S. W.
Washington, D. C. 20202

Contract No. OEC-0-71-3714

INNOVATION AND CHANGE:

A Study of Strategies in Selected Projects Supported by the National Center for the Improvement of Educational Systems

FINAL REPORT

VOLUME III

CHAPTER IV - Variables and Analytic Procedures
CHAPTER V - Study Findings
CHAPTER VI - Summary of Findings and Policy Recommendations
CHAPTER VII - Going Beyond the Data: Implications for Educational Innovation

December 27, 1972

VOLUME III

TABLE OF CONTENTS

VOLUME III

Table of Contents, Continued

CHAPTER IV

VARIABLES AND ANALYTIC PROCEDURES

Definition of Variables

In order to conduct any kind of statistical analysis, some quantification of the problem under investigation must be obtained. The case studies themselves do not provide this; they serve only as the source of the data. At one level, we have developed a series of 37 rating scales, described in detail elsewhere in this report. These scales represent a first attempt at providing a quantitative description of the BEPD projects. However, they were written to provide a fairly broad perspective of the sites and as such often are not uniquely important. It is clear that some procedure was necessary to [illegible] their dimensionality or to develop new variables which provide more information.

It should be clear why the 37 scales cannot all be used in the analysis. First of all, there are just too many of them. If we were to make all of the 666 possible pairwise comparisons, we know that some correlations would be significant, even if only by chance. As was indicated earlier many of the variables are really not interesting in their own right. They were included among the rating scales to provide additional insight into other potential comparisons or were intended to be taken into account with other variables in analysis. Yet, even if all variables were of interest and we could disregard the statistical problems, the results would not be cognitively manageable. At the very least a conceptual reduction of the scope of the analysis is called for. As we go on, it will become clear that we have not asked all the possible questions there are to ask; it is not reasonable to do so. We have, as will be explicated in a later section, developed a few general areas of interest and several testable hypotheses for each area. Very often, these models required data not explicitly contained in the individual rating scales. Given this need, and the aforementioned cognitive/statistical reasons for reducing the number of variables for consideration, we proceed to select variables for analysis in the following manner.

The variables to be used must come from the set of 37 scales, used singly or in combination with each other. An immediate technical problem was selection of procedures for generating combinations, since the scales were written with certain underlying dimensions of interest in mind. For example, several scales were written to tap the various aspects of "within project consensus" because it was hypothesized at the outset of the study that such a

dimension may be of use in interpreting the results of the study. It is also evident that there is a good deal of intercorrelation among the various scales. These two facts led us to consider the techniques of factor analysis as an empirical procedure for deciding upon underlying dimensions and how variables measuring them should be constructed.

However, there are certain mathematical difficulties associated with use of factor analysis in the present case. We were able to generate a 37 x 37 intercorrelation matrix but had only 13 cases on which to make our computations. This resulted in indeterminancy: a unique solution cannot be found under these conditions. It is not possible to map a 37-dimensional space into a 13-dimensional one, or solve a set of 13 equations with 37 unknowns. However, there are computational procedures which will yield a solution. Although this solution is not the only possible one that adequately fits the data, it may still have some utility. [illegible] of factoring will [illegible] to confirm [illegible] which scales "[illegible] together". But it will provide some supportive, if nonconfirmatory, evidence. This is analogous to the use of simple correlations in investigating causality. If a correlation is observed, we have a necessary but not sufficient situation for a causal relationship to exist. But if there is no observed correlation, we can safely reject the hypothesis that such a relationship exists.

We are still faced with the need for combining rating scales into more complex variables for analysis. Judgemental procedures were, therefore, necessary. The results of the above factor analysis, along with knowledge about the intended underlying structure of the scales and the expert judgement of the Abt Associates senior project staff and consultants were combined to produce the variables described below. The drawback of judgemental clustering is that there is no hard evidence for the validity or internal consistency of the constructed variables. Consequently, a confirmatory factor analytic procedure was used to provide evidence that there was but one underlying factor associated with the subset of scales that comprise a variable. The intercorrelation matrix of the scales in a variable was factored. The criterion for accepting a scale as unidimensional and internally consistent was established as being that only one derived factor would have an Eigenvalue meaningfully in excess of unity. Small residual factors with eigenvalues of, for example, 1.03,

would not constitute evidence for rejecting a variable structure. The results of these tests are presented along with the descriptions of the variables. It should be mentioned that this technique is inappropriate in the cases where the constructed variable is composed of only two scales. In such a situation, as long as the correlation between the two scales is nonzero, there will be one Eigenvalue greater than one and of necessity, one less than one. The Eigenvalue is determined according to the relation $\lambda_1 = 1 + r$, where r is the correlation between the scales. (The other result is $\lambda_2 = 1 - r$, because $\lambda_1 + \lambda_2 = 2$.) In such cases, the results of the factor analysis are not reported.

The final technical problem to solve concerns the manner of combining the scales into variables. If factor analysis were possible, the factor scores would have presented an attractive manner of deciding on the weights for the individual scales. However, it has been demonstrated by several authors that factor scores as derived by the standard computer routines are not unique and that signed unit weighting is a highly adequate substitute. Such a technique was adopted. The sign of each scale was determined by studying its direction of scoring and by observing the sign of its factor loading in the internal consistency tests. In all cases, the decisions were identical.

All positively weighted scales were simply added together. All negatively weighted ones were transformed so that the scoring was in the opposite direction and then added to the positive ones. The final total was divided by the number of scales composing the variable to keep these variables on a common metric with the original scales (a seven-point scale). Transposition of the negatively weighted scales was accomplished by subtracting the obtained scale score (on the original scale) from 8, the number of points in the scale plus one. It can be readily seen that a seven in the original scoring becomes 1, 2 becomes 6, etc.

The factors were computed from the following general form:

$$F = (8n + P_1 + P_2 + \ldots + P_m - N_1 - N_2 - \ldots - N_n) / (m + n),$$

where there are m positive scales (P_i) and n negative scales (N_j). More generally, the 8 can be replaced by the expression (k + 1) for any k-point scale.

TABLE I

PROJECT IDENTIFICATION CODE

CODE LETTER	CODE NAME	PROGRAM
A	Aurora University	Early Childhood Training of Teacher Trainers Program
B	Bayport, Old Brunswick	Career Opportunities Program
C	Beecham University	Teacher Corps Program
D	Cotunke Reba	Educational Leadership Project
E	Hermosa State University	Special Education Program
F	Edwardia State Department of Education	Vocational Education Program
G	Johnston, Van Buren	Special Education Project
H	Mathis, Atlantica	Training Teacher Trainers Project
I	West Kingsland University	Teacher Corps
J	University of Franklinia Medical School	Early Childhood Program
K	University of Riceville	Training of Teacher Trainers
L	Sussex, North Monroe	Career Opportunities Program
M	Ocmulgee State University	Pupil Personnel Services

INDIVIDUAL SCALES: DESCRIPTIONS AND DESCRIPTIVE STATISTICS

1. Source of Training Staff [outside-inside the project]

Each of the thirteen projects supplies some kind of professional education training for its participants. An indicator of the degree to which the project is integrated into the institutional structure of the participating IHE's is the extent to which it draws its training staff from the regular faculty. That is, we may ask if the individuals providing training are faculty members or non-tenured project staff with no formal ties to the IHE other than through the project.

Footnotes

References detailing functions of specialized personnel and sources of such personnel, including explanations of special contributions: C. K. Ferguson, 1969; M. B. Miles, et al., 1966; R. Chin, K. D. Benne, 1967; Argyris, 1961; Rogers, Shoemaker, 1971; N. Gross, J. B. Giacquinta, M. Bernstein, 1971; Lippitt, et al., 1967.

Anchor and Mid-scale Descriptions

1. All outside the project: There is no full time training staff, all are brought in on a part time basis to work with trainees on specific tasks as trainers.

4. Equally outside and inside the project: Staff is mixed, some regularly and fully employed by the project, some on temporary assignment and part time salary from other places (other departments, IHEs, LEAs, consultants).

7. None outside the project: All training staff is fully employed by the project, with no other commitments, and no other staff is involved in training project trainees.

Results *

1. F
2. L, I
3. B, C
4. K
5. J, G, H, E, A
6. D, M
7. ---

*These results provide a rank ordering of the projects according to the scores assigned by the appropriate field team members.

1. Source of Training Staff - cont'd

References to Case Studies*

Aurora	- 2M, 5M, 3M, 12B
Bayport	- 10B, 11, 12
Beecham	- 5T, 6, 7T&M
Cotunket	- 1M, 24T
Danforth	- ---
Edwardia	- 7T, 9M, 12B
Johnston	- 12T, 12B, 13B
Mathis	- ---
Pardee	- 11M
Petersburg	- 19T, 3T, 20, 18
Riceville	- 1T, 3B, 4M, 6T, 7M, 10M, 13B, 18T, 18M
Sussex	- 10
Trenton	- ---

*In order that the reader may check the rating of any project on any of the 37 scales, reference to the location in the case study report where the data on which the rating was based is in cluded in this section.

**The designations "T", "M", and "B" indicate the general location on the page (top, middle, bottom). If a page number has no letter designation, the whole page contains the source of the rating.

2. Type of Decision Making [all central - none central]

To a considerable extent the issue of decision making has received intense attention in the examination and analysis of various social institutions, e.g., the issue of centralization and decentralization in the sphere of federal and state governmental relations. This scale attempts to determine the particular balance of decision making arrived at within the project. Each project can therefore be located on a continuum of centralization, from highly centralized (in which most decisions are made by a small leadership group) to highly non-centralized (in which various project actors participate in the decision making process).

Footnotes

References treating the advantages and disputed advantages of the decision making process, e.g., who should make the decisions, what effects the personnel of decision making has on the results for innovation adoption, and the effects of authority decisions include: R. Chin, K. D. Benne, 1967; E. M. Rogers and F. F. Shoemaker, 1971; Lippitt, et al., 1967; G. N. MacKenzie, 1964; D. C. Flesche, N. A. Masters, T. H. Eliot, 1964.

Anchor and Mid-scale Descriptions

1. All centralized: All decisions are made by senior staff, with no input or participation from trainees or intermediate staff.

4. Intermediate: Some decisions are made by senior staff; some with intermediate staff participation; some with trainee and/or staff participation.

7. None centralized: All decisions are subject to review, veto, participation, contribution by any of all participants, including trainees, intermediate staff, and senior staff, who may also initiate decisions.

Results

1. F
2. L
3. , D, C
4. I, E, A
5. B, M
6. K
7. H

2. Type of Decision Making - cont'd

References to Case Studies

Aurora	-	4M, 17M, 7B, 8T, 9M, 12T, 13B
Bayport	-	12M, 13M
Beecham	-	14M
Cotunket	-	---
Danforth	-	---
Edwardia	-	10T, 20B, 21T, 28B
Johnston	-	11T
Mathis	-	2M, 17M, 3M, 19T, 10B, 21, 13B, 27T, 15B
Pardee	-	12M
Petersburg	-	26T, 28B
Riceville	-	1B, 2T, 8M, 8B, 10T, 12M
Sussex	-	15, 16, 11, 12, 17, 18
Trenton	-	2, 11M, 16M

3. Dependence on External Sources of Funds [total - not dependent]

This scale explicitly attempts to determine the program's funding sources. Implicitly it serves as an indicator of the potential permanence of the project. To a significant extent the temporariness or permanence of projects of this nature depends on the extent to which the supporting and/or sponsoring institutions allocate from their own budgets a significant amount of the project's operational funds. One may easily infer from the extent to which an institution uses "hard money" to supplement project funds, its commitment to the project (and the goals it represents).

Footnotes

Important also is the question of when funds are available and for how long a time, i.e., whether funds are available for the development of an idea and its implementation, or only for its implementation. References include: W. Bessent, H. A. Moore, 1967; N. Gross, 1971.

Anchor and Mid-scale Descriptions

1. Totally Dependent: There is no hard position for the project, no unfunded staff or trainee participant; it is ad hoc, and totally dependent on federal support for its existence.

4. Intermediate: The project functions much like unfunded project, but may not continue if funding stops.

7. Not dependent: The project serves as a supplement to existing functions/operations of a well established agency (division, department, superintendent, etc.), and is staffed by personnel also supported by unfunded operations.

Results

1. G, M
2. H, E
3. ---
4. B, L, C
5. J, D, A
6. F, K
7. I

3. Dependence on External Sources of Funds - cont'd

References to Case Studies

Aurora	-	9B, 17B
Bayport	-	5B, 6T
Beecham	-	23
Cotunket	-	---
Danforth	-	---
Edwardia	-	13T, 14M
Johnston	-	---
Mathis	-	---
Pardee	-	4M, 7T, 22M
Petersburg	-	1B, 2T, 2M
Riceville	-	5T, 5M, 15M, 21B
Sussex	-	11T
Trenton	-	17B

4. Degree of [illegible]itutionalization [not - all institutionalized]

Like [illegible]ous scales, this one also attempts to ascertain the degree of perm[illegible] the project. Here, the significant indications of institutionalization are the extent to which the project fits into the organizational structure of either of the participating institutions and the extent to which the project fulfills a regular function of one of these involved institutions.

Footnotes

Of particular importance in any discussion of organizational temporariness is the work by Miles, 1964; N. Gross, 1971; E. M. Rogers, F. F. Shoemaker, 1971 also are significant references.

Anchor and Mid-scale Descriptions

1. Not institutionalized: The project does not fit into the organizational structure of any participating institution, is completely ad hoc for the term of the contract, and no participant (staff or trainee) is tenured in either institution.

4. Intermediate: Aspects of the project appear to be congruent with regular operations of one or another participating institution; some participants have established roles in participating institutions.

7. Institutionalized: The project is carrying out a regular function of a well-established agency, staffed largely by regular faculty, recruiting and involving participants through established channels.

Results

1. ---
2. B, G, M
3. H
4. L, E, D, A
5. F, J
6. K, C
7. I

4. Degree of Institutionalization - cont'd

References to Case Studies

Aurora	-	5, 6T, 6M
Bayport	-	4M, 10T, 15B, 16T, 28M
Beecham	-	6B, 7T
Cotunket	-	24M
Danforth	-	---
Edwardia	-	9M, 14M
Johnston	-	9B, 10T, 15B
Mathis	-	6M, 6B, 7T, 15M&B
Pardee	-	2B, 3T, 20-22
Petersburg	-	4B
Riceville	-	5M, 12M, 21B
Sussex	-	---
Trenton	-	3M, 16B

5. Size of Departure from Former Goals and Practices [large - none]

This scale allows us to determine the magnitude of change embodied in the projects. The degree to which the project's goals differ significantly from those of the participating institutions gives us some indication of the change potential of the project. The size of departure is relative. Any particular practice could be "radical" at a traditional institution yet "reactionary" at a liberal one.

Footnotes

References including discussion of necessity of compatibility of values between project or innovation and existing organizational as well as discussion of optimum size of departure for successful implementation included: R. L. Peabody, R. E. Rourke, 1965; R. E. Chadwick, R. H. Anderson, 1967; P. E. Marsh, 1964; E. M. Rogers, F. F. Shoemaker, 1971; N. Gross, 1971; R. Lippitt, J. Watson, B. Westley, 1958.

Anchor and Mid-scale Descriptions

1. Large Departure: The project's goals are significantly different from previous goals, operations, directions in participating institutions; its operations differ in technique for instruction, organization, staffing, recruitment, etc.; there is a major discrepancy between the project and traditional operations in participating institutions.

4. Intermediate: Some new goals are delivered along with some old ones, or the goals are different from traditional goals but only mildly, as seen by the project and host institutions.

7. No Departure: Regular service to traditional clients through traditional means as seen by those clients and by participating institutions.

Results

1. H, K
2. D, M
3. ---
4. B, J, L, C
5. F, E
6. I, A
7. G

5. Size of Departure from Former Goals and Practices - cont'd

References to Case Studies

Aurora	-	5T, 9M
Bayport	-	11M, 21M
Beecham	-	10T, 31T
Cotunket	-	25M
Danforth	-	---
Edwardia	-	14B
Johnston	-	---
Mathis	-	8M
Pardee	-	5T
Petersburg	-	2M, 27-29
Riceville	-	8M, 11B, 12B, 13M, 20T, 17T
Sussex	-	3, 4, 7, 28
Trenton	-	---

6. Size of Controversy Attributed to Discrepancy between Current and Former Goals and Practices [great - none]

This scale, then, attempts to ascertain the controversy generated by the project and its associated operational procedures. Like the previous scale, this one may be thought of as an indicator of the relative innovativeness of the project.

Footnotes

References include: D. C. Flesche, N. A. Masters, T. H. Eliot, 1964; N. Gross, 1971; E. M. Rogers, F. F. Shoemaker, 1971.

Anchor and Mid-scale Descriptions

1. Great Controversy: The project seems surrounded by antagonists contesting its deviations from tradition, and the controversy is attributed to its operations either by project participants or by non-participants.

4. Some Controversy: Some factions, either within the project or outside the project, contest its deviations from tradition.

7. No Controversy: Neither participants nor non-participants attribute controversy to the project's activities, either because the project has been perceived as traditional or because deviations from tradition were not, at the time of implementation, controversial.

Results

1. M. K
2. M
3. ---
4. C
5. B
6. F, J, G, L, I, E, D
7. A

6. Size of Controversy Attributed to Discrepancy between Current and Former Goals and Practices - cont'd

References to Case Studies

Aurora	-	6B
Bayport	-	21M
Beecham	-	---
Cotunket	-	25M
Danforth	-	---
Edwardia	-	---
Johnston	-	---
Mathis	-	9T, 11M&B, 12T, 27M
Pardee	-	---
Petersburg	-	---
Riceville	-	---
Sussex	-	---
Trenton	-	12M

7. Range of Expertise Required by Client System (wide - narrow)

Here we attempt to get some measure of the range of skills and techniques which is called into play to operationalize the project's objectives. This scale focuses on the particular set of expertise which the sponsoring institution determined were necessary to effectuate their goals. This is related directly to issues of the complexity of projects: is a project a narrow teacher-training operation or is it multi-disciplinary, serving many types and levels of professionals.

Footnotes

Recognition of the necessity of minimal appropriate skills by the client system and discussion of the importance of the presence or absence of such skills are part of the following references: N. Gross, 1971; E. M. Rogers, F. F. Shoemaker, 1971; R. E. Chadwick, R. H. Anderson, 1967; P. E. Marsh, 1964; P. K. Piele, T. L. Eidell, S. C. Smith, 1970.

Anchor and Mid-scale Descriptions

1. Wide Range: The system which is client to the project, either the LEA, the local school, or the "professional area," requires training in many disciplines at different levels of skills.

4. Intermediate Range: The client system requires a range of skills or discipline expertise extending beyond one department or specialized area, or one professional category, but limited and specified.

7. Narrow Range: The client system requires a specific kind and focus of training for upgrading or integrating personnel, which extends only to one level of skill or one discipline area.

Results

1. H
2. A, K
3. F, I, H
4. L, C
5. E, D
6. J, M
7. B, G

7. Range of Expertise Required by Client System - cont'd

References to Case Studies

Aurora	-	13-14
Bayport	-	23-24, 29
Beecham	-	9T
Cotunket	-	6M, 27T
Danforth	-	---
Edwardia	-	2M, 3T
Johnston	-	---
Mathis	-	---
Pardee	-	---
Petersburg	-	---
Riceville	-	2B, 3-4, 5T, 8T
Sussex	-	---
Trenton	-	10, 11, 14-15, 1M, 6M

8. Range of Expertise Required of Trainers (wide - narrow)

This scale relates to the type of individual needed to implement a particular program of change. Just as a project may be wide ranging, it may require a wide range of talents in its staff. Or, it may provide the same wide range of services using a large number of specialists. The general issue of project configuration is again addressed by this scale.

Footnotes

References include: R. E. Chadwick, R. H. Anderson, 1967; M. B. Miles, et al., 1969; E. M. Rogers, F. F. Shoemaker, 1971; N. Gross, 1971; R. Lippitt, 1969; R. Lippitt, J. Watson, B. Westley, 1958.

Anchor and Mid-scale Descriptions

1. Wide Range: The project provides trainers in several different disciplines or skill areas and draws upon a wide varieyt of trainers and/or staff members.

4. Intermediate Range: The project is designed to provide training in some skills and disciplines, but clearly has limits and omits training in other areas.

7. Narrow Range: The project requires trainers with only one kind of skill or one subject area of expertise, providing training in a specified content area using a specified format.

Results

1. K
2. M, A
3. L, C
4. L, C
5. B, J, M
6. F, G, I, E
7. ---

8. Range of Expertise Required of Trainers - cont'd

References to Case Studies

Aurora	-	---
Bayport	-	10-12, 21-22
Beecham	-	7T, 10B, 11T
Cotunket	-	27T
Danforth-	-	---
Edwardia	-	2M, 3T
Johnston	-	---
Mathis	-	---
Pardee	-	11M
Petersburg	-	19, 18B
Riceville	-	---
Sussex	-	---
Trenton	-	---

9. Centrality of Project Objectives to Local Education Agency (very - none)

The importance of the project in terms of the sponsoring institutions overall objectives is the variable considered by this scale. The extent to which the project's goals and objectives are similar to those of the institutional leadership provides some indication of the kind of internal support that would be afforded to the project. There are two subscales for each project; one for centrality to the LEA, and one for the IHE.

Footnotes

References include: M. B. Miles, 1964; H. M. Brickell, 1967; H. A. Shepard, 1969; E. M. Rogers, F. F. Shoemaker, 1971; N. Gross, 1971.

Anchor and Mid-scale Descriptions

1. Very Central: The project's goals and objectives are identical to the goals and objectives of the institutional leadership (Dean, Chairman, Superintendent) of the institution providing the base for the project; the project plays a central role in the agency of which it is a part.

4. Intermediate: This is one of several important projects by which the agency intends to accomplish its goals. The project contributes to the overall objectives, but is not crucial.

7. Not Central: The project is not planned as an intrinsic operation by the host institution. The goals and objectives of the project are not integrated into the host institution, and the project appears peripheral.

Results

1. ---
2. C
3. ---
4. L, D
5. B, G
6. F, J, I, E, M, K
7. H

N/A A

9. Centrality of Project Objectives to Local Education Agency - cont'd

References to Case Studies

Aurora	-	17B, 10, 4-6, 13
Bayport	-	23T, 29T, 7M
Beecham	-	26B, 29T
Cotunket	-	5M, 6M
Danforth	-	---
Edwardia	-	18, 23, 26
Johnston	-	---
Mathis	-	27M, 28M
Pardee	-	---
Petersburg	-	---
Riceville	-	2M, 3M, 7M, 18B, 12M, 21B, 13B, 15M
Sussex	-	3T, 7M
Trenton	-	8M, 13-15, 1B, 4M, 6M 6B, 7T

10. Centrality of Project Objectives to Institutions of Higher Education (very - none)

See Definition for number 9.

Footnotes

See Footnotes for number 9.

Anchor and Mid-scale Descriptions

See Anchor and Mid-scale Descriptions for number 9.

Results

1. E
2. F, J, I, A, C
3. B. D
4. L, H
5. K
6. ---
7. G, M

References to Case Studies

Aurora	-	6M
Bayport	-	4M, 15M, 16M, 18B, 29M
Beecham	-	7B, 8M, 31T
Cotunket	-	---
Danforth	-	---
Edwardia	-	6B, 7T, 26M
Johnston	-	9B, 10T
Mathis	-	19M
Pardee	-	4T
Petersburg	-	16-17, 26, 28-29
Riceville	-	1T, 18T, 2M, 18M, 18B, 12M, 21B, 13B, 17B, 19T
Sussex	-	9T
Trenton	-	16-17

11. Centrality of Project Director to Local Education Agency (very - none)

This scale relates to the project director's position in the organizational structure of the participating institutions. A part of the change literature suggests that innovations are facilitated by "gatekeepers," those individuals within the system that is to change who are supportive of the change. One could also infer from this scale the extent to which the project's goals are results of the goals of the institution. Again, there are subscales for both the LEA and IHE.

Footnotes

Further details of the relation of the project director to both host institutions and to project development, including manner of appointment of the director, and other factors are to be found in the following references: E. M. Rogers, F. F. Shoemaker, 1971; R. O. Carlson, 1965; C. E. Bidwell, 1965; R. Lippitt, J. Watson, B. Westley, 1958; N. Gross, 1971; R. E. Chadwick, R. H. Anderson, 1967; G. N. Mackenzie, 1964.

Anchor and Mid-scale Descriptions

1. Very Central: The project director is a key figure in the host institution, has significant rank, has direct and easy contact with the institution's decision makers, and makes decisions which affect the overall institutional framework.

4. Intermediate: The project director is an important figure in the overall institutional framework, but either by position or by desire is not a central decision maker, acts independently and with infrequent contact.

7. Not Central: The project director's power is limited and even then limited only to the project itself: his contact is rare or minimal with the institutional leadership; and his role in the overall planning seems minimal.

Results

1. L, E
2. ---
3. D, C
4. ---
5. B, I
6. F, H, E, M, K
7. J, G

N/A A

11. Centrality of Project Director to Local Education Agency - cont'd

References to Case Studies

Aurora	-	---
Bayport	-	10M
Beecham	-	---
Cotunket	-	---
Danforth	-	---
Edwardia	-	5T
Johnston	-	3T
Mathis	-	26M
Pardee	-	11B
Petersburg	-	---
Riceville	-	---
Sussex	-	8T
Trenton	-	---

12. Centrality of Project Director to Institutions of Higher Education (very - none)

See Definition for number 10.

Footnotes

See Footnotes for number 10.

Anchor and Mid-scale Descriptions

See Anchor and Mid-scale Descriptions for number 10.

Results

1. L, E
2. J, I, A, K, C
3. F, H, D
4. ---
5. ---
6. B
7. G, M

References to Case Studies

Aurora	-	6M
Bayport	-	---
Beecham	-	5T
Cotunket	-	23B
Danforth	-	---
Edwardia	-	6B, 7T
Johnston	-	---
Mathis	-	4M, 12M&B, 13
Pardee	-	4M
Petersburg	-	---
Riceville	-	---
Sussex	-	---
Trenton	-	3M

13. Congruence of Perception on the Magnitude and Desirability of Educational Change between Director and Staff (congruent - not)

This series of scales measures the internal agreement on the issue of change in education. More specifically, how much emphasis the project should be placed on institutional change rather than on its training/staff development functions. High congruence indicates that the two actors specified are in high agreement; low congruence indicates great disparity. Note that there could be high agreement that change is not necessary as well as agreement that it is necessary.

There are four subscales in this section. The first deals with agreement within the project staff, the agreement between the project director and his staff. The second deals with the agreement of the staff (both director and other staff) and the project trainees. The third concerns the agreement of the project director and the LEA decision makers. Finally, the last measures the agreement between the project trainees and the LEA staff (usually teachers) with whom they work in their practicum experience.

Footnotes

References of particular interest include: E. M. Rogers, F. F. Shoemaker, 1971; N. Gross, 1971; D. C. Flesche, N. A. Masters, T. H. Eliot, 1964; R. E. Chadwick, R. H. Anderson, 1967; G. N. Mackenzie, 1964; M. B. Miles, et al., 1969.

Anchor and Mid-scale Descriptions

1. Congruent (All Agreed): Both sides fully agree that change is needed in education, that change is needed in education, that change is an important priority for the project.

4. Intermediate: Both sides have points of agreement and points of less than agreement.

7. Not congruent: There is a real disparity between the two sides on the question of change.

Results

1. F, B, G, I, D, M
2. J, L, H, E, A, K, C
3. ---
4. ---
5. ---
6. ---
7. ---

13. Congruence of Perception on the Magnitude and Desirability of Educational Change between Director and Staff - cont'd

References to Case Studies

Aurora	-	---
Bayport	-	---
Beecham	-	33B
Cotunket	-	---
Danforth	-	---
Edwardia	-	---
Johnston	-	---
Mathis	-	19B
Pardee	-	---
Petersburg	-	---
Riceville	-	10B, 11T
Sussex	-	---
Trenton	-	---

14. Congruence of Perception on the Magnitude and Desirability of Educational Change between Staff and Trainees (congruent - not)

See Definition for number 13.

Footnotes

See Footnotes for number 13.

Anchor and Mid-scale Descriptions

See Anchor and Mid-scale Descriptions for number 13.

Results

1. M
2. B, G, L, H
3. I, D, K
4. J, E, A, C
5. ---
6. ---
7. ---

N/A F

References to Case Studies

Aurora	-	---
Bayport	-	---
Beecham	-	---
Cotunket	-	27M
Danforth	-	---
Edwardia	-	---
Johnston	-	---
Mathis	-	19B
Pardee	-	---
Petersburg	-	---
Riceville	-	7M
Sussex	-	---
Trenton	-	---

15. Congruence of Perception on the Magnitude and Desirability of Educational Change between Director and Local Education Agency (congruent - not)

See Definition for number 13.

Footnotes

See Footnotes for number 13.

Anchor and Mid-scale Descriptions

See Anchor and Mid-scale Descriptions for number 13.

Results

1.	I
2.	L, D
3.	G, K, C
4.	E
5.	H, M
6.	F, B
7.	---
N/A	J, A

References to Case Studies

Aurora	-	---
Bayport	-	---
Beecham	-	27T
Cotunket	-	---
Danforth	-	---
Edwardia	-	29B
Johnston	-	---
Mathis	-	19B
Pardee	-	---
Petersburg	-	---
Riceville	-	7M, 9B
Sussex	-	---
Trenton	-	12, 13, 14-15

16. Congruence of Perception on the Magnitude and Desirability of Educational Change between Trainees and Local Education Agency Teachers (congruent - not)

See Definition for number 13.

Footnotes

See Footnotes for number 13.

Anchor and Mid-scale Descriptions

See Anchor and Mid-scale Descriptions for number 13.

Results

1.	---
2.	L
3.	G
4.	I, D, M, A, C
5.	E, K
6.	B, H
7.	---
N/A	F, J

References to Case Studies

Aurora	-	---
Bayport	-	---
Beecham	-	26M
Cotunket	-	12M
Danforth	-	---
Edwardia	-	---
Johnston	-	11T
Mathis	-	---
Pardee	-	---
Petersburg	-	---
Riceville	-	---
Sussex	-	---
Trenton	-	8, 10, 15

17. Congruence of Perception on the Appropriateness of the Project's Goals, Strategies, and the Substance of Training between Director and Staff (congruent - not)

The internal agreement on issues of what changes to implement and how they should be implemented is the subject of this set of scales. Although, as measured by the last scale, some actors could agree that change is desirable, they could disagree over what changes should be made, where they should be made, or how they should be made. Once again, as in the last item, we have four subscales.

Footnotes

The following references are appropriate to discussions of whether, and if so how, changes should be made: G. H. MacKenzie, 1964; E. M. Rogers, F. F. Shoemaker, 1971; R. E. Chadwick, R. H. Anderson, 1967; D. Klein, 1969; N. Gross, et al., 1971.

Anchor and Mid-scale Descriptions

1. Congruent (All Agreed): Both sides fully agree that the project is providing appropriate training service, through mutually agreed upon strategies which are effective in bringing improved training and skill development to where that training is necessary and useful.

4. Intermediate: Both sides have points of agreement and points of less than agreement.

7. Not Congruent: There is a real disparity between the two sides on the question of training and project strategies.

Results

1. F, G, D, M
2. B, J, L, I, E, K, C
3. H, A
4. ---
5. ---
6. ---
7. ---

17. Congruence of Perception on the Appropriateness of the Project's Goals, Strategies, and the Substance of Training between Director and Staff - cont'd

References to Case Studies

Aurora	-	---
Bayport	-	---
Beecham	-	34B, 35
Cotunket	-	---
Danforth	-	---
Edwardia	-	---
Johnston	-	---
Mathis	-	11M&B, 12T&M
Pardee	-	11B, 12T
Petersburg	-	17T
Riceville	-	15B, 17T
Sussex	-	---
Trenton	-	---

18. Congruence of Perception on the Appropriateness of the Project's Goals, Strategies, and the Substance of Training between Staff and Trainees (congruent - not)

See Definition for number 17.

Footnotes

See Footnotes for number 17.

Anchor and Mid-scale Descriptions

See Anchor and Mid-scale Descriptions for number 17.

Results

1. H, M
2. ---
3. G, I, D, K, C
4. B, L, E
5. J
6. A
7. ---

N/A F

References to Case Studies

Aurora	-	8T, 9B, 11M, 13T&M
Bayport	-	11B
Beecham	-	8T, 26M
Cotunket	-	11B, 12T
Danforth	-	---
Edwardia	-	---
Johnston	-	14B, 15T, 13T
Mathis	-	---
Pardee	-	15-16
Petersburg	-	10T, 26, 28T, 16M
Riceville	-	15B
Sussex	-	20T, 21T, 18T, 25M
Trenton	-	---

19. Congruence of Perception on the Appropriateness of the Project's Goals, Strategies, and the Substance of Training between Director and Local Education Agency (congruent - not)

See Definition for number 17.

Footnotes

See Footnotes for number 17.

Anchor and Mid-scale Descriptions

See Anchor and Mid-scale Descriptions for number 17.

Results

1. I
2. G, L, E
3. D
4. H, M, K, C
5. F
6. B
7. ---

N/A J, A

References to Case Studies

Aurora	-	---
Bayport	-	---
Beecham	-	---
Cotunket	-	---
Danforth	-	---
Edwardia	-	10M, 14M
Johnston	-	7M, 8T, 11T
Mathis	-	14M
Pardee	-	---
Petersburg	-	---
Riceville	-	15B
Sussex	-	8B
Trenton	-	16B

20. Congruence of Perception on the Appropriateness of the Project's Goals, Strategies, and the Substance of Training between Trainees and Local Education Agency Teachers (congruent - not)

See Definition for number 17.

Footnotes

See Footnotes for number 17.

Anchor and Mid-scale Descriptions

See Anchor and Mid-scale Descriptions for number 17.

Results

1. ---
2. G, E, D
3. C
4. L, I, M, A
5. ---
6. B, H, K
7. ---

N/A F, J

References to Case Studies

Aurora	-	11M
Bayport	-	---
Beecham	-	---
Cotunket	-	---
Danforth	-	---
Edwardia	-	---
Johnston	-	---
Mathis	-	---
Pardee	-	---
Petersburg	-	---
Riceville	-	15B
Sussex	-	26M, 13M
Trenton	-	---

21. Commitment to Project Goals for Project Director (committed - not)

One indicator of the level of effort that would be directed toward the attainment of the project's goals is the degree of commitment alloted to them by the key actors in the program's operation. To what extent do the various key actors deem some or all of the project's goals as meriting significant personal investment; to what extent do they see the project incorporating a plan for educational improvement which propels them to levels of effort beyond normal concern? The opposite end of the continuum has the project perceived by various actors as being an extension of traditional educational practice and, as such, not worth great efforts. Their association with the project is for some personal benefit (training, employment, etc.). There are four subscales for this variable, one each for the project director, the remainder of the project staff, the project trainees and the LEA staff.

Footnotes

References include: D. G. Arastine, 1971; R. Lippitt, 1967; E. M. Rogers, F. F. Shoemaker, 1971; N. Gross, 1971; R. E. Chadwick, R. H. Anderson, 1967.

Anchor and Mid-scale Descriptions

1. Committed: The project is a means of committing oneself to change, educational improvement, new methodologies, an agenda and plan of action by which education, either locally or globally, can be a life giving force for the society at large. There is a missionary zeal.

4. Intermediate: Some project goals are worth massive personal investment, others seem trivial; alternately, there is a level of personal investment which is less than total, yet more than passing.

7. Not Committed: The project is a vehicle for maintaining or extending traditional concerns/procedures/instruction/departmental power, etc., but has no major significance beyond what any training program may have. The content or process of the project are not seen as particularly unique or dramatic.

Results

1. M
2. F, B, J, H, E, C
3. D
4. G, L, A
5. ---
6. K
7. I

21. Commitment to Project Goals for Project Director - cont'd

References to Case Studies

Aurora	-	---
Bayport	-	---
Beecham	-	---
Cotunket	-	12M
Danforth	-	---
Edwardia	-	---
Johnston	-	---
Mathis	-	21
Pardee	-	5-6
Petersburg	-	---
Riceville	-	---
Sussex	-	---
Trenton	-	---

22. Commitment to Project Goals for Staff (committed - not)

See Definition for number 21.

Footnotes

See Footnotes for number 21.

Anchor and Mid-scale Descriptions

See Anchor and Mid-scale Descriptions for number 21.

Results

1. H, M
2. F, B, E, D, K
3. J, C
4. G, I
5. ---
6. A
7. I

References to Case Studies

Aurora	-	---
Bayport	-	---
Beecham	-	7B
Cotunket	-	12M
Danforth	-	---
Edwardia	-	---
Johnston	-	---
Mathis	-	---
Pardee	-	---
Petersburg	-	27B
Riceville	-	---
Sussex	-	20M
Trenton	-	---

23. Commitment for Trainees

See Definition for number 21.

Footnotes

See Footnotes for number 21.

Anchor and Mid-scale Descriptions

See Anchor and Mid-scale Descriptions for number 21.

Results

1. H, M
2. A
3. L, K, C
4. J, G, E, D
5. B
6. F
7. I

References to Case Studies

Aurora	-	17M
Bayport	-	22B, 24M
Beecham	-	30M, 31T
Cotunket	-	12M
Danforth	-	---
Edwardia	-	---
Johnston	-	---
Mathis	-	5M, 6T
Pardee	-	10M
Petersburg	-	6M, 6B, 10T, 27B
Riceville	-	---
Sussex	-	21T, 23, 11M, 12M, 13M
Trenton	-	8M

24. Commitment for LEA Staff

See Definition for number 21.

Footnotes

See Footnotes for number 21.

Anchor and Mid-scale Descriptions

See Anchor and Mid-scale Descriptions for number 21.

Results

1. ---
2. ---
3. C
4. L, H, E, D, M
5. ---
6. F, B, J, G, K
7. I

N/A

References to Case Studies

Aur[illegible]	-	---
Bar[illegible]	-	---
Beech[illegible]	-	---
Cot[illegible]et	-	12M
Dan[illegible]th	-	---
Edwa[illegible]	-	---
Johns[illegible]	-	7T
Mathis	-	---
Pardee	-	4B, 5-6, 17B
Petersburg	-	---
Riceville	-	---
Sussex	-	5T
Trenton	-	---

25. Function of Practicum in LEA (support - non-support)

This scale deals with the project's rationale for the practicum. Does it serve the needs of the LEA directly (by providing it with extra staff) and somehow make the practicum school a better place or is it merely an extension of the training process, a laboratory for training or experimentation with ideas without any direct relevance to the LEA in which the practicum is located?

Footnotes

Related also to the above questions of centrality of project objectives to hose institutions, and degree of institutionalization, as well as to the subsequent assessment of the transferability of skills acquired, the references used in this scale included, in addition to those references cited in the related scales, the following: R. E. Chadwick, R. H. Anderson, 1967; G. N. MacKenzie, 1964.

Anchor and Mid-scale Descriptions

1. Supported by LEA: All practicum sites are based in the "real world" experience intrinsic to the LEA, and has the LEA's continued interest, supervision, service in mind.

4. Intermediate: Some practicum sites, or some aspects of the practice, have LEA uppermost, while others are concerned with other priorities.

7. Not Supported by LEA: All practicum sites are more laboratories for experimenting with ideas than for LEA-oriented activity, and are largely ignored, disregarded, or blocked by LEA leaders.

Results

1. L
2. F, I, A
3. D
4. M, C
5. B
6. J, G, H, E
7. K

25. Function of Practicum in LEA - cont'd

References to Case Studies

Aurora	-	13B, 14T
Bayport	-	23, 8T, 29T, 24, 7B
Beecham	-	10B, 11T, 26B, 27T
Cotunket	-	5M, 13T
Danforth	-	---
Edwardia	-	---
Johnston	-	13M
Mathis	-	29B, 30T
Pardee	-	---
Petersburg	-	---
Riceville	-	4M, 13T, 6B, 16M, 7T, 7B, 8T
Sussex	-	3M, 9
Trenton	-	1B, 4M, 7M, 15M

26. Function of Practicum in IHE (intrinsic - extrinsic)

The subject of this scale is the extent to which the practicum is an extension of the IHE training process. A goal of many of the BEPD programs is to improve teacher training by getting the teacher trainers actively involved in the field, working in classrooms with school children instead of only with college students. This scale concerns the level of IHE participation in the practicum and the degree to which the practicum experience is an integral part of the participant's training, and of the training process itself.

Footnotes

As this scale is similar to the scale above, so too are the references somewhat overlapping, including the following additions: S. R. Wayland, 1964; R. Lippitt, 1969; H. A. Shepard, 1969.

Anchor and Mid-scale Descriptions

1. Intrinsic to IHE: The practicum is clearly an extension of other parts of the training program, involves IHE faculty in the field, provides information for class-based discussions and curriculum in the IHE, and is more or less central to the rest of the project.

4. Intermediate: Some staff, some trainees, or some aspects of the project place the practicum as a central focus of training and a central issue in the overall program, but many other classes/seminars/IHE-based work projects have no relevance to the practicum.

7. Not Intrinsic to IHE: The practicum is not considered in any course, in any class, in any part of the IHE training.

Results

1. J, K
2. L, I, E, M, C
3. G, D, A
4. B
5. F, H
6. ---
7. ---

26. Function of Practicum in IHE - cont'd

References to Case Studies

Aurora	-	8B, 13M, 14M, 15T
Bayport	-	23
Beecham	-	8B
Cotunket	-	5M
Danforth	-	---
Edwardia	-	---
Johnston	-	---
Mathis	-	29B, 30T
Pardee	-	14B, 15T
Petersburg	-	12-18
Riceville	-	16M
Sussex	-	---
Trenton	-	---

27. Transferability of Skills Acquired (totally - not)

This scale attempts to measure the general utility of those skills and expertise imparted during the training sequence of the project. It provides an indirect measure of the "pay-off" incentive for the trainees and the potential applicability of the trainee's acquired technical experience upon completion of his internship. It is also, in a sense, an index of the degree of specialization of the project.

Footnotes

References included: R. Lippitt, 1967; P. E. Marsh, 1964; M. B. Miles, 1964; E. M. Rogers, F. F. Shoemaker, 1971.

Anchor and Mid-scale Descriptions

1. Totally Transferable: All skills built into the project are transferable and useful, relevant and practical, in situations outside of the project.

4. Intermediate: Some skills may be used after the project's training, others may not.

7. Not Transferable: Skills are not viewed as useful outside of the project, and trainees are involved for other reasons (credential, money, etc.).

Results

1. ---
2. L, M, K, C
3. J, G, A
4. H, E, D
5. B
6. I
7. F

References to Case Studies

Aurora	-	5T, 16M
Bayport	-	21-22
Beecham	-	15T
Cotunket	-	30M
Danforth	-	---
Edwardia	-	6, 15-16
Johnston	-	12M, 13B
Mathis	-	---
Pardee	-	10
Petersburg	-	10T
Riceville	-	12M, 14T
Sussex	-	7B, 10B
Trenton	-	10M

28. Expressed Orientation to Applied Change Theory (positive - negative)

The literature on change theory in general and the education field specifically has provided rich theoretical and heuristic frameworks to analyze the change process. This literature often presents informative and relevant data for the change agent. This scale, then, attempts to determine the extent to which this literature, or similar analysis, explicitly influenced the operationalization and development of the projects.

Footnotes

References included: R. Lippitt, 1967; P. E. Marsh, 1964; M. B. Miles, 1964; E. M. Rogers, F. F. Shoemaker, 1971.

Anchor and Mid-scale Descriptions

1. Highly Positive: The project staff and trainees frequently cite specific theories of educational and social change (e.g., Miles, Benne, Bennis, Lippitt, etc.), and express an orientation to applying, developing, or testing theoretical models in the course of their training.

4. Intermediate: Staff and trainees occasionally refer to the literature on change, or to various theoretical models, but are just as often guided by tactical, day to day considerations.

7. Highly Negative: The project staff and trainees dismiss theoretical models and rely very heavily on ad hoc solutions, immediate "reality based" decision making; tactical and local or idiosyncratic constraints.

Results

1. ---
2. M, K
3. J
4. L, D, C
5. ---
6. F, B, E, A
7. G, I, H

28. Expressed Orientation to Applied Change Theory - cont'd

References to Case Studies

Aurora	-	15B, 16B
Bayport	-	---
Beecham	-	---
Cotunket	-	5M, 7B
Danforth	-	---
Edwardia	-	---
Johnston	-	---
Mathis	-	8M, 5M, 6T
Pardee	-	---
Petersburg	-	---
Riceville	-	---
Sussex	-	---
Trenton	-	---

29. Service Orientation of Senior Staff (service - not service)

Generally, the overall influence of the senior staff on a program's development and operation is significant. Their philosophies are likely to be influential given their position in the organizational structure of the project. This status affords them the opportunity to set the particular orientation which would characterize the project in some dimensions. This scale attempts to ascertain the particularities of the senior staff orientation in terms of their priority of service delivery as an objective. We are interested in the extent to which the project sees its goals as providing needed IHE training services to schools.

Footnotes

References included: R. L. Peabody, F. E. Rourke, 1965; H. M. Brickell, 1967; S. R. Wayland, 1964; R. Lippitt, 1967; P. E. Marsh, 1964; M. B. Miles, 1964; H. A. Shepard, 1969; N. Gross, 1971; E. M. Rogers, F. F. Shoemaker, 1971.

Anchor and Mid-scale Descriptions

1. Service Oriented: Staff is oriented to meeting needs, primarily in the field, to delivering services which are not now being delivered and for which the project serves as a vehicle. Generally this will mean that the IHE's training capacity is viewed as a new service to schools, one which the schools both need and can use.

4. Intermediate: Some resources, some staff, or some aspects of the project are oriented to serving the schools, but the project has other, essentially not service-oriented, priorities as well.

7. Not Service Oriented: Staff does not intend to deliver a service as much as to develop theory, or some other activity which clearly has a priority over serving schools or meeting school-oriented needs, except for the need to change.

Results

1. F, G, D
2. L, I, E, M, C
3. J
4. B, A
5. K
6. M
7. ---

29. Service Orientation of Senior Staff - cont'd

References to Case Studies

Aurora	-	---
Bayport	-	---
Beecham	-	10B, 11T, 18
Cotunket	-	14M, 16B, 20M
Danforth	-	---
Edwardia	-	2M, 3T, 6M, 10M
Johnston	-	8M, 14M
Mathis	-	3M, 10M
Pardee	-	5M, 4M, 18
Petersburg	-	3B, 27M, 4T, 28B, 19T, 25T
Riceville	-	21M
Sussex	-	10M, 28M
Trenton	-	7M

30. Change Orientation of Senior Staff (change - no change)

Like the previous scale, this one attempts to identify the particular orientation of the senior staff in terms of institutional change. Here we are interested in the senior staff's commitment to changing education and their perception of the project as a vehicle for such change.

Footnotes

References included: R. G. Corwin, cited in Piele, 1970; N. Gross, 1971; M. B. Miles, 1964; S. R. Wayland, 1964; R. C. Williams, 1970; R. Lippitt, 1967.

Anchor and Mid-scale Descriptions

1. Change Oriented: Staff is oriented to changing education, changing schools, and using the project as a vehicle for significant change in instruction/organization/management of school services to kids.

4. Intermediate: Some of the staff, or some of everyone's orientation, is toward change and toward establishing new institutional priorities, but there are other trends in the project as well, which, on occasion, take priority over change.

7. Not Change Oriented: Staff is oriented toward "doing a job" which is defined as other than changing either the university or the school systems. This may be a relatively traditional teaching or training job, or it may have nothing to do with education per se.

Results

1. H, M
2. ---
3. D
4. F, J, L, C
5. B, E, A
6. G, K
7. I

30. Change Orientation of Senior Staff - cont'd

References to Case Studies

Aurora	-	4M, 16M, 16B, 17T
Bayport	-	5T
Beecham	-	34B, 35
Cotunket	-	3B, 11T, 15M, 29M
Danforth	-	---
Edwardia	-	6M
Johnston	-	14T
Mathis	-	2T, 5M, 9M, 27T
Pardee	-	9B, 10T
Petersburg	-	25T, 22M, 27M, 28B
Riceville	-	1T, 10B, 11T, 16T, 20B, 18T, 18B
Sussex	-	---
Trenton	-	5T, 6T

31. Role Played by Senior Staff Value System (determines - not determines)

This scale is also concerned with the weight of the philosophies excercised by the senior staff. Our concern here, though, is not ascertaining whether this philosophy can be interpreted as either service or change oriented - but rather, the overall degree of influence this philosophy has on the project's operation. Is there an "answer" to the questions of the project which guides its operation?

Footnotes

References included: E. M. Rogers, F. F. Shoemaker, 1971; N. Gross, 1971; A Etzioni, 1965; R. O. Carlson, 1965; R. E. Chadwick, R. H. Anderson, 1967; R. Lippitt, J. Watson, B. Westley, 1958; P. E. Marsh, 1964; M. B. Miles, 1964.

Anchor and Mid-scale Descriptions

1. Value System Determines: There is a model, a point of view, a "solution" identified by the staff and this is intrinsic to the training package; there is some core of "answer" to the problems/issues/questions which arise in the course of the project and which remains relatively constant.

4. Intermediate: A point of view, or value system is present in the project, but is not central to either the way the project is promoted in the practicum sites or the way in which cooperating LEAs perceive the project.

7. Value System Does Not Determine: Services are not organized under a particular theoretical orientation; the goal is to train those who are untrained, to provide resources where and when those resources are demanded, to "respond" to training and LEA needs rather than dictate those needs or programs.

Results

1. H, M
2. J, D
3. B, E, C
4. L, A
5. ---
6. F, G, K
7. I

31. Role Played by Senior Staff Value System - cont'd

References to Case Studies

Aurora	-	4M&B, 16B, 11M, 16T, 15T
Bayport	-	19T, 19B
Beecham	-	24B
Cotunket	-	11T
Danforth	-	---
Edwardia	-	---
Johnston	-	13T
Mathis	-	2M, 9M
Pardee	-	5M
Petersburg	-	2M, 4M, 5M, 27B
Riceville	-	1M, 1B, 9B, 16T, 18T
Sussex	-	---
Trenton	-	3-6

32. Innovativeness of Role Sought by Trainees (innovative - not)

Although the three preceding scales focus on the potential influence of the senior staff of the projects, it is not to be assumed that the trainees themselves merely react to stimuli from higher authority. In fact, in a number of cases, the particular determinism of the trainees - at times to the woe of the senior staff has been felt throughout the sphere of the project's operation. This scale attempts to determine if the trainees see themselves as change agents for the schools or if they perceive the project as providing them with traditional directions.

Footnotes

Peferences included: N. Gross, 1971; P. E. Marsh, 1964; R. Lippitt, 1967.

Anchor and Mid-scale Descriptions

1. Innovative Role: Trainees come into the project as a way of preparing themselves as change agents able to bring about significant change in local schools.

4. Intermediate: Trainees want to be in traditional job categories as a way to influence schools, but not as leaders in educational change.

7. Non-innovative Role: Trainees are after points for advancement, salary, promotion, tenure, or a more secure position in the educational systme. Typically they or the project will describe this goal as professional upgrading.

Results

1. H, M
2. A, K
3. D, C
4. B, G
5. J, E
6. F, L
7. I

32. Innovativeness of Role Sought by Trainees - cont'd

References to Case Studies

Aurora	-	17M, 7B, 8T, 8M. 9M, 11T
Bayport	-	20T, 24M, 21B
Beecham	-	---
Cotunket	-	11M, 27M
Danforth	-	---
Edwardia	-	21
Johnston	-	7T, 11B, 14B
Mathis	-	6T
Pardee	-	8M, 9T, 16B
Petersburg	-	22M
Riceville	-	---
Sussex	-	26B
Trenton	-	6B, 8M

33. Willingness of IHE to Change (willing - unwilling)

One particular focus of our research effort has been to identify strategies devised by the project managers, in addition to the facilitating and constraining factors of change. The change potential of a project should be correlated with the willingness of the cooperating institutions to bring about change within themselves and in other institutions. Again, there are subscales for the LEA and IHE.

Footnotes

Many of the works on organizational change provide discussions of the ways in which organizations achieve a willingness to accept change, and the methods by which the change is made to perform what is perceived by the management to be necessary internal reconstruction within acceptable limits. Among the references applicable to this point are the following: C. E. Bidwell, 1965; M. B. Miles, 1964, 1965, 1969; E. M. Rogers, F. F. Shoemaker, 1971; N. Gross, 1971; R. E. Chadwick, R. H. Anderson, 1967; H. M. Brickell, 1967; D. Klein, 1969; R. Chin, K. D. Benne, 1969; G. Watson, 1969; H. A. Shepard, 1969; R. Lippitt, 1967; J. V. Clark, 1969.

Anchor and Mid-scale Descriptions

1. Willing: The project is a means by which an institution can bring about change within itself and with other institutions; change is essential to the director, staff, cooperating teachers, trainees, and the institutional leadership; graduates are placed in positions where they can exercise their ability to bring about change.

4. Intermediate: Some aspects of the institution are to be changed through the project, but other aspects are to be conserved, secured, and made even more permanent. For example, a change in recruitment may be a means of preserving curriculum, a change in relations with other institutions may be a means of maintaining institutional leadership, etc.

7. Unwilling: Participating institutions view the project as a means of satisfying demands to maintain, but not to extend or expand, services; the project supplied trainees or staff not significantly different with other personnel, with little discrepancy in either training or attitude.

Results

1. F
2. ---
3. B, I
4. L, H, D, A, C
5. J
6. F, E
7. G, F

33. Willingness of IHE to Change - cont'd

References to Case Studies

Aurora	-	7T
Bayport	-	15M, 18B, 15B, 28M, 16T, 16M
Beecham	-	2, 32T
Cotunket	-	10T, 22M, 25M
Danforth	-	---
Edwardia	-	---
Johnston	-	10T, 15M, 9B
Mathis	-	---
Pardee	-	4M
Petersburg	-	10-11, 16-17, 25-29
Riceville	-	1M, 18T, 19, 20B
Sussex	-	10B, 18B
Trenton	-	16M&B

34. Willingness of LEA to Change (willing - unwilling)

See Definition for number 33.

Footnotes

See Footnotes for number 33.

Anchor and Mid-scale Descriptions

See Anchor and Mid-scale Descriptions for number 33.

Results

1. ---
2. D
3. F, I
4. J, C
5. B, M, K
6. J, G, H, E
7. ---

N/A A

References to Case Studies

Aurora	-	---
Bayport	-	24M, 29T
Beecham	-	26M, 29T
Cotunket	-	12M, 21B
Danforth	-	---
Edwardia	-	---
Johnston	-	---
Mathis	-	8B
Pardee	-	7M
Petersburg	-	---
Riceville	-	7B, 8T, 9T, 15T
Sussex	-	23M
Trenton	-	12M, 15T

35. Interrelatedness with Other Projects (very - not)

One dimension of the scope of the project is the extent to which it interacts with other institutions to operationalize its objectives. This scale attempts to measure the extent to which a project brings together or significantly interacts with other agencies or projects be they other [illegible]CIES projects, other federal projects (such as Headstart, of state-supported projects.

Footnotes

References included: M. B. Miles, 1964; R. Chin, K. D. Benne, 1969; R. Lippitt, 1969; P. E. Marsh, 1964; M. B. Miles, et al., 1969; [illegible] A. Shepard, 1969; M. B. Miles, 1965; N. Gross, 1971

Anchor and Mid-scale Descriptions

1. Very Interrelated: The project draws together several other federal/state/local innovation projects, piggybacks funding, or trains people who will or are at work on other projects (e.g., a TTT which trains early childhood specialists for Headstart, as well as Title I paraprofessionals for COP, principals for leadership, and special education consultants).

4. Intermediate: Tangential relations between the project and several other projects, possible strong relations with one other project, which are important to the goals or functions of the project being studied.

7. Not Interrelated: The project is isolated, unrelated to any other project or program, isolated from other funds (i.e., BEEP is the only source of "soft money") training specific people for specific jobs which will only be hard money jobs.

Results

1. ---
2. F, C
3. J
4. A
5. E
6. B, G, L, D, K
7. I, H, M

35. Interrelatedness with Other Projects - cont'd

References to Case Studies

Aurora	-	13B, 17T, 17B
Bayport	-	7M, 9T
Beecham	-	24B, 25T
Cotunket	-	---
Danforth	-	---
Edwardia	-	---
Johnston	-	4B
Mathis	-	21
Pardee	-	19B
Petersburg	-	4M, 23B, 1B, 2T, 2M, 24T, 3M
Riceville	-	2M, 3M, 9M
Sussex	-	3-7, 9
Trenton	-	---

36. Behavioristic Orientation (behavioral - non-behavioral)

This scale attempts to ascertain the degree to which the project has laid out specific measurable behavioral objectives, and whether they have specific products they wish to see accomplished. One measure of this is the extent to which the project explains its goals and objectives in terms of specific products or performance characteristics rather than in "humanistic" terms.

Footnotes

References included: N. Gross, 1971; E. M. Rogers, F. F. Shoemaker, 1971; R. Chin, K. D. Benne, 1969; R. E. Chadwick, R. H. Anderson, 1967; R. O. Carlson, 1965; M. B. Miles, 1964; P. E. Marsh, 1964.

Anchor and Mid-scale Descriptions

1. Behavioral: The project explains its goals and objectives in terms of specific behavioral outputs or performance characteristics; defends itself with behavioral measures or test scores; promotes itself as a means of achieving specific goals for participants and target agencies.

4. Intermediate: The project has specified performance criteria or behavioral measures applied at some times in some situations, but not pervasively throughout the project, nor central to its expression of its direction to outsiders.

7. Non-behavioral: The project explains its goals and objectives in terms of making schools more humane, just, "good," "warm," "happy," or moral; or, alternatively, the project avoids stating objectives at all, preferring to explain its operations in terms of activities rather than goals (we do such and such rather than we expect to have accomplished so and so).

Results

1. ---
2. G
3. L, I, C
4. E, K
5. D, M
6. F, B, J, A
7. H

36. Behavioristic Orientation - cont'd

References to Case Studies

Aurora	-	---
Bayport	-	---
Beecham	-	7B, 8T
Cotunket	-	---
Danforth	-	---
Edwardia	-	---
Johnston	-	13M
Mathis	-	28M, 32B
Pardee	-	13M, 14, 15M
Petersburg	-	3B, 4T, 8M, 17M, 15M
Riceville	-	---
Sussex	-	4T
Trenton	-	15B

37. Extent of Support Provided for Other Innovations (much - none)

This scale refers to the degree of support the project has for externally developed and managed innovations. Will the project assist a local school that wants to try open classrooms? Are such innovations explicitly endorsed, benignly supported (if a trainee wants to do something divergent in his practicum, he is permitted to do so, but not necessarily encouraged), or actively ignored or opposed?

Footnotes

References included: P. E. Marsh, 1964; M. B. Miles, 1964; R. Lippitt, 1967; E. M. Rogers, F. F. Shoemaker, 1971; R. E. Chadwick, R. H. Anderson, 1967.

Anchor and Mid-scale Descriptions

1. Much Support: The project supports, actively and with staff resources, a wide variety of local innovations which have originated in client systems (typically in local school systems) and makes a specific attempt to send trainees and staff to work with local innovators in bringing about planned changes such as open classrooms, differentiated staffing, flexible scheduling, etc. (e.g., team teaching and open classrooms through a special education project, handicapped and non-handicapped children in classrooms affiliated with TTT).

4. Intermediate: The project will not condemn, and may give mild support to innovations developed by staff or trainees but has very limited interest to externally developed innovative treatments; trainees have a sense that they can "innovate" with the support of the project, but that they cannot expect specific technical assistance from the project in bringing about major change.

7. No Support: The project has no interest, implied or expressed, in working with innovations developed outside of its context; will not participate in innovations developed by its trainees in the field; and may even oppose such field activities.

Results

1. K, C
2. I
3. F, B, J, H, E, D, M
4. G, L
5. A
6. ---
7. ---

37. Extent of Support Provided for Other Innovations - cont'd

References to Case Studies

Aurora	-	---
Bayport	-	7M
Beecham	-	18, 27B, 33M
Cotunket	-	---
Danforth	-	---
Edwardia	-	---
Johnston	-	---
Mathis	-	2M, 19B, 20T&M
Pardee	-	5B, 7T
Petersburg	-	2B, 4M, 22M, 23B, 24T
Riceville	-	2M, 5M, 9M, 20M
Sussex	-	4-5
Trenton	-	8M

Constructed Variables

The following section describes the ten variables constructed by combining individual rating scales. Included in the descriptions are the results of the factor analysis testing and hypothesis that the scales are internally consistant, unidimensional -- the result of a single underlying factor, a listing of the scale items that constitute the variable and a description of the inte d meaning of the variable. Statistics describing the scales (means and standard deviations) are also included. Correlations among the variables and their correlation with the original scales are contained in Appendix A which contains all variable intercorrelations.

A. SERVICE ORIENTATION OF PROJECT

Polarity: High service orientation to Low service orientation

Scales: *07 (Range of expertise required by client)
*08 (Range of expertise required of trainers)
29 (Service orientation of staff)

Description of variable: This variable, as should be evident from its composition, is concerned with the project's perception of itself as either a service provider for LEAs or as something else (such as a force for change in either the LEA or IHE). Narrow range of skills involved in the project (as indicated by the negative loadings of scales 07 and 08) point towards training of participants in a specialized area.

Statistics: Eigenvalue (lambda)** = 2.10 % of variance = 69.8

mean = 3.36 standard deviation = 1.42

---

* An asterisk (*) before a scale indicates that it is negatively weighted in composing the variable.

** The maximum eigenvalue for any set of variables in a factor analysis is equal to the total number of variables. The standard cutoff point for the existence of a factor (as suggested by Kaiser) is an eigenvalue of one. Eigenvalues of less than one indicate that the factor has negative internal consistency. In all cases (except as noted), the eigenvalue presented was the only one in excess of unity. "% of variance" refers to the percent of the total variance in the set accounted for by the single factor.

B. PROJECT TRAINING IN CHANGE

Polarity: Project supplies training in change to Project does not

Scales: *01 (source of training staff)
24 (Commitment of LEA staff)
27 (Transferability of skills acquired)
31 (Role of senior staff value system)
32 (Innovativeness of trainee role)

Description: This variable relates to whether or not the project intends to provide its participants with practical training in the techniques of change agentry. An alternative to this approach is to provide them with a more or less conventional program of professional education, generally concentrating on a particular specialty area (early childhood education, special education, etc.). The model of a project providing its participants with training in change contains several factors, as reflected by the scales selected to comprise this variable. The training is supplied by project staff, rather than by IHE faculty who are not staff members or by total outsiders; the project senior staff has a strong set of values that it is translated into operation by means of the project and the LEA staff also has a commitment to the goals of the project. The training itself has two general attributes; the skills taught are general and transferable, not addressed to a specific staffing need an LEA may have; and the role for which the participants are being trained is itself innovative.

Statistics: Eigenvalue = 2.88 ** % of variance = 57.6
Mean = 4.00 Standard deviation = 1.35

C. STAFF ORIENTATION TO CHANGE

Polarity: Not change oriented to Highly change oriented

Scales: *21 (Project director's commitment to project goals)
*22 (Staff commitment to project goals)
*30 (Change orientation of senior staff)
36 (Behavioristic orientation of project)

Description: Important aspects of any project are the attitudes and values of the senior staff. In the present context, their commitment to educational change and to the goals of the project are the most relevant of the staff's values. The scale relating to the behavioristic orientation of the project is weighted so that low behavioristics is associated with high change

** In this case, a second factor with an eigenvalue in excess of unity was obtained (eigenvalue = 1.02, % of variance = 20.4). Study of the factor structure led us to believe that this factor was merely an artifact of the reversed polarity of scale 01. Also, a quick Scree test (as suggested by Cattell) indicates that this factor is not important.

orientation. It is observed that projects with a behavioristic emphasis (use of performance criteria, heavy emphasis on behavioral objectives, etc.) tend to be more traditional, service oriented projects.

Statistics: Eigenvalue = 2.78 % of variance = 69.4
Mean = 4.56 Standard Deviation = 1.45

D. INSTITUTIONALIZATION OF PROJECT WITHIN IHE

Polarity: Not institutionalized to IHE to Very institutionalized

Scales: 04 (Degree of institutionalization)
*10 (Centrality of project objectives to IHE)
*12 (Centrality of project director to IHE)
*35 (Interrelatedness with other projects)

Description: The relationship of the project and its staff to the IHE is expected to be a key factor in explaining how innovation was brought about both within the IHE and in the LEA. We would expect that the project's association with the IHE will be very important in defining its relationship with the LEA.

Statistics: Eigenvalue = 2.66 % of variance = 66.4
Mean = 4.12 Standard deviation = 1.53

E. RELEVANCE OF PROJECT TO LEA

Polarity: Relevant to LEA to Not relevant

Scales: 09 (Centrality of project objectives to LEA)
11 (Centrality of project director to LEA)
25 (Function of practicum in LEA)

Description: As with the relationship to the IHE (variable D above), the project's status with the LEA will be an important variable in investigating the dynamics of change (or resistance to change) at the LEA level and, to a lesser extent, at the IHE. This variable, taken with the above one, will be important in investigating the strategy of project location (at the IHE vs. the LEA vs. somewhere else).

Statistics: Eigenvalue = 2.17 % of variance = 72.4
Mean = 4.89 Standard deviation = 1.47

F. INNOVATIVENESS OF PROJECT

Polarity: Innovative to Not innovative

Scales: 05 (Size of departure from former goals and practices)

32 (Innovativeness of role sought by trainees)

37 (Extent of support for other innovations)

Description: The focal point of this entire study is innovation--how it may be brought about and how it is resisted. This is a general variable relating to the innovativeness of the project, its goals and operations. We have not chosen to measure directly the impact of the projects, their success in bringing about change. This variable will serve as the "dependent" variable in many analyses in which we wish to learn what other variables are associated with innovativeness. The assumption is made that innovative projects are more likely to influence organizational change than non-innovative ones. In constructing this scale, we chose to omit the scale relating to the controversy attributed to the project (scale 06). Although many authors have suggested that innovativeness is always accompanied by controversy, we have chosen to test that assumption rather than assume it to be true.

Statistics: Eigenvalue = 2.11 % of variance = 70.8

Mean = 3.54 Standard deviation = 1.31

G. WITHIN PROJECT AGREEMENT

Polarity: High agreement to No agreement

Scales: Type 1: 13 (Congruence of perceptions about change between project director and staff)

17 (Congruence of perceptions about project operations between project director and staff)

Type 2: 14 (Congruence of perceptions about change between staff and trainees)

18 (Congruence of perceptions about project operations between staff and trainees)

Type 3: 13, 14, 17, 18.

Description: The concept "within project agreement" can be looked at in several different ways. At one level, it is the agreement within the staff of the project on the goals and operations of the project. On another level, it can be the agreement between the trainees and the entire staff on project goals and operations. Or, as in Type 3, it can be the totality of both of the above. The solidarity of the project can be expected to be an important variable in assessing the effectiveness of the project in engendering organizational change. There is still some ambiguity as to how it should be defined and measured. As a result, all alternatives will be discussed and any differences in interpretation caused by using different variables can be studied further.

Statistics: Type 1:* Mean = 1.69 Standard deviation = 0.56

Type 2:* Mean = 3.08 Standard deviation = 1.12

Type 3: Eigenvalue = 2.47 % of variance = 61.9
Mean = 2.42 Standard deviation = 0.73

H. RISKINESS OF PROJECT

Polarity: Very risky to Not risky

Scales: 05 (Size of departure from former practice)
06 (Controversy)
*29 (Service orientation of senior staff)
32 (Innovativeness of trainee role)

Description: The variable that we have labeled "riskiness" is related to the previously defined variables of innovation and change orientation. Riskiness refers to the extent to which a project has taken a radical position: not being service oriented, providing training in change, departing greatly from former practices and, likely as a result of the degree of deviance, being the center of some controversy. Consequently, this factor represents a kind of total innovativeness. Although its structure is similar to the innovativeness variable (F), it is not identical.

Statistics: Eigenvalue = 2.86 % of variance = 71.6
Mean = 4.44 Standard deviation = 1.61

I. ATTRACTIVENESS OF PROJECT TO TRAINEES

Polarity: Attractive to trainees to Not attractive

Scales: Part 1: 06 (Controversy)
08 (Range or trainer expertise required)
Variable F (Innovation)

Part 2: *03 (Dependence on external funds)
04 (Degree of institutionalization)
*10 (Centrality of project objectives to IHE)
*12 (Centrality of project director to IHE)

Part 3: 01 (Source of training staff)
*02 (Type of decision making)
30 (Change orientation of senior staff)
31 (Role of senior staff value system)

Total: [all of the above parts]

*No Eigenvalues are reported for variables composed of only two scales.

Description: Although the project staff and their characteristics are generally important to any project, those projects which propose to train change agents must also have high quality participants. It was felt useful to have a variable that represented the potential attractiveness of a project to a change oriented trainee. We felt that this consisted of three attributes: that the project be broad, innovative and controversial (Part 1); that the project not be tied to the IHE and not dependent on it for funding (could it be that innovative trainees do not trust established Schools of Education?); and that the project be decentralized and have its training provided by project staff members with a strong point of view.

It can be observed that Part 1 is very similar to the risk variable (H) constructed and that Part 2 is similar to the variable related to the centrality of the project to the IHE (variable D).

From a research perspective, it may be useful to look individually at each of the component parts of the attractiveness variable as well as at the entire variable. This is especially true in view of the results of the factor analysis of the 11 variables that are combined to make up attractiveness. Three significant factors were derived from the 11 scales, with factor loadings indicating a structure corresponding to the three components already mentioned. Each of these three variables was then factor analyzed, resulting in but one factor emerging from each set.

Statistics:

Total:	Eigenvalues = 4.74; 2.63; 1.42	
	% of variances = 43.1; 23.9; 12.9	
	Mean = 4.21	Standard deviation = 0.80
Part 1:	Eigenvalue = 2.38	% of variance = 79.4
	Mean = 4.40	Standard deviation = 1.51
Part 2:	Eigenvalue = 2.94	% of variance = 78.6
	Mean = 4.40	Standard deviation = -.98
Part 3:	Eigenvalue = 2.47	% of variance = 61.8
	Mean = 4.04	Standard deviation = 0.95

J. SIMILARITY OF TRAINEES TO LEA TEACHERS

Polarity: Similar to LEA teachers to Dissimilar

Scales: 16 (Congruence of perceptions about change between trainees and LEA teachers)

20 (Congruence of perceptions about project operations between trainees and LEA teachers)

Description: A variable that occured in several of our notions had to do with the extent to which project trainees were similar or dissimilar to the LEA teachers with whom they must work in their practicum. Alternatively, this variable may be seen as distinguishing those projects whose trainees are, in fact, LEA teachers (or staff members) from those projects which recruit qualitatively different types of actors.

Statistics: Mean = 4.09 Standard deviation = 1.22

General Analytic Procedures

Now that we have developed a large mass of quantitative data, in the form of either original rating scales or constructed variables, we can begin to conduct some form of empirical investigation into the nature of the projects funded by NCIES. There are several general approaches that may be followed in these analyses, each more complex than the preceding. However, certain aspects of the present study present technical problems which will constrain our choice of procedures.

Although complex multivariate analyses (multiple regression analysis, causal modeling) are both interesting and powerful research tools, we are severely limited as to the number of variables we may deal with in any single application. A common rule of thumb in multiple regression is that there should be approximately ten cases for each independent variable. More precisely, at least four more cases than independent variables are required if the mean square error of the regression is to be less than infinity. Since we have but 13 cases at our disposal here, it will be necessary to restrict multivariate analyses to problems involving no more than four or five variables.

Also, the fact that the thirteen sites were most certainly not selected at random limits the extent of statistical generalization we may make from our analyses, regardless of the sample size problems. However, as we have said in previous sections, it is hoped that sufficient background information about the thirteen sites is contained in the case studies and rating scales to allow a reader who wishes to make a judgemental generalization of the findings to do so with at least some indication of the relevance of the present study to his concerns.

Descriptive Statistics

The most basic level of statistic is the descriptive statistic; the mean or standard deviation of a sample. Since we know something about the metric of the ratings (they are all seven-point scales), we can make judgements about the level of average level of the projects on some scale or study the variability of the individual project scores. For example, we can say that, according to the rating scale, the average level of trainee commitment is 3.62, somewhat slightly more committed than not, but still evidencing only a moderate amount of commitment. Further, the trainees in Project X are given

commitment ratings of 1, but the trainees in Project Y are rated 7. It is then possible to comment on this difference, given the knowledge about the projects contained in the case studies. Such information is presented in the rating scale writeups contained in Chapter IV. Similar remarks can be made concerning projects ratings on the constructed variables. Also the variability of projects on a particular scale can be considered. Some scales have projects clustered in one place on the scale, others have a wide distribution of scores.

Pairwise Comparisons

We may make simple bivariate comparisons of two rating scales, two constructed variables or a scale and a variable. Since the variables were constructed so as to remain on the same seven point scale as the originals, direct comparisons are possible. These comparisons can be in two forms: correlations and scatterplots. Although the correlation gives a very precise determination of the strength of an apparent relationship, and allows for significance testing, the scatterplot, with each point identified, contains much additional information. If a low correlation is computed, it may be the result of only one or two outlying projects whose deviance can be rationally explained, since they are identified by their anonymised name. Since a large number of pairs will be studied, all the indicated scatterplots will not be made or presented in this report. However, where it appears likely that the additional information contained in such a plot could add to our understanding of the relationship of two variables, such a plot will be made and included in the results section.

As was indicated earlier, all possible pairwise comparisons of the 37 scales would result in 666 pairs. Adding a minimum of 10 additional constructed variables, this number rises to 1081. Finding useful information for educational planning or innovation theory among this is like searching for the proverbial needle in the proverbial haystack. Hundreds of these pairs are uninteresting and many more represent spurious relationships. Since we have but a finite amount of time and space in which to present our analyses, we have restricted our attentions to a small portion of these possible questions. However, the full matrix of intercorrelations is included in Appendix A.

Multivariate Analyses

For reasons discussed above, we will be using the term "multivariate" in a very limited sense here. It includes, for our purposes, such procedures as partial correlation, multiple regression and causal analysis. Although these relationships often prove to be the most substantively interesting, they always prove most difficult to interpret.

Partial correlational procedures will allow us to examine the relationship of two variables with a third held constant. Although higher order partials are possible to compute, we have avoided them for the reasons discussed above. A partial correlation may make a large observed correlation small (if the relationship was spurious--the correlation of the two variables was the result of both varying with a third variable) or make a small observed correlation large (if the variable partialled out was a source of "noise" in the relationship). We anticipate example of both situations in our results.

Multiple regression is similar to ordinary bivariate correlation except that several independent variables are used to predict the dependent variable. The computational procedure yields a weighted combination of the independent variables that best predicts the dependent variable. Both the total predictive power of the entire set of independent variables (expressed as the multiple correlation) or the independent contribution of a single variable or subset of variables can be examined. The independent contributions will be assessed by examining the increment in the squared multiple correlation resulting from the addition of the variable(s) of interest. Such a procedure has been shown to be far superior to simply examining the regression (beta) weights of the variables contained in the prediction equation.

An example of the application of multiple regression to the present study would be to see how much prediction of the Innovation variable could be improved by adding Commitment of Trainees to the prediction made by knowing the Commitment of the Staff. The increase in the (squared) multiple correlation may be tested for significance by standard procedures. It is also possible to study the relative importance of several independent variables in predicting the dependent variable by similar procedures. However, this type of question is more appropriately addressed by causal analysis (path analysis).

The final type of multivariate procedure we anticipate using in the analysis of the rating scales and variables is causal analysis. In this technique, a causal model relating several variables is drawn up beforehand and the observed intercorrelations are entered into the model to see how well the model "fits the data." Path coefficients linking the various variables in the causal model are computed by a procedure identical to the derivation of regression (beta) weights in multiple regression. It is this case in which the regression weights (acting as path coefficients) can be meaningfully interpreted. The relative causal importance of the variables can be inferred from the path coefficients.

In addition to the above procedures, factor analysis was used extensively in the construction of variables from rating scales. This procedure has already been described. Since we do not plan to use factor analysis for any analytic purposes beyond those mentioned, it is not included in this discussion.

CHAPTER V

STUDY FINDINGS

Introduction

It is appropriate to recapitulate briefly the questions we would like to examine. Our major concern is the consideration of the several strategies used by NCIES projects in accomplishing their goals. Since there is no clear criterion on which to assess the ultimate value of any strategy, we have decided to look at some of the consequences of different approaches to goal acquisition. Although we are very much aware that a case study format, and particularly one which includes no more than 13 non-randomly selected cases, does not yield casual conclusions with ease, we are nevertheless interested in associating styles of goal acquisition with their potential impact on the Schools of Education and the local agencies with which the projects interact. It is hoped that the way to such impact may be more clearly defined as a result of this study.

We have identified five major areas of strategies within which the 37 rating scales were developed. The areas include:

- The relationship of the project to the IHE (e.g., is the project widely based in the School of Education or is it external to the School);
- The organizational characteristics of the project (e.g., is the decision-making process centralized or decentralized);
- the project's training curriculum and practicum (e.g., is the curriculum change-oriented; are the training procedures stated in behavioral terms);
- the relations of the trainees to the project (e.g., are the trainees oriented toward change); and
- the relations of the project to the LEA (e.g., are the LEAs willing to accept the work of the project).

A variety of rating scales were written to allow the strategies of the projects to be described in quantitative terms by the members of the Abt Associates field team. The selection of the items on which each project is rated determines, of course, the range of possible questions which can be asked. This is particularly true if we reassert our unwillingness to place

a great deal of faith in the comparison of ratings item-by-item. We are, however, confident that the ratings provided by the two members of each team are very reliable. Nevertheless, a single item constitutes a very small sample of the complexities of any single strategy, and can, under these circumstances, be used meaningfully only to support general notions. The alternative is to cluster the items described above, both to broaden their meaning and to improve their reliability. This means that the questions which can be asked are limited to the sets of items we have generated. This is as it should be to protect us from falling into the trap of enchantment by chance. The increasing number of comparisons available to us as we increase the item-by-item analyses increases the possibility of chance positive results, which, to the unwary or unprepared, is a very misleading situation. We would rather reduce the number of issues to look at, and to state them with whatever precision we can in advance, which is one of the few protections we have from the vagaries of chance.

What questions can we ask? We must, by definition, be very general here. We are not testing hypotheses; rather we are attempting to identify some models which might be used to guide policy. The models must emerge from the data, and the notions about these models which guide the search for them are, as the literature discussion indicates, rather sparse. We would expect that, as we examine some of the general issues, the data generated in the present study will suggest lines of investigation to follow and that the questions will become refined as we explore the models. We shall start with a very general statement of some of the issues to be examined and develop these notions as the data are examined.

- Relations of the Project to the IHE.

The central issue here is an exploration of the consequences of the status of the project within the IHE. The projects may be very peripheral to the interests of the faculty or administration, or they may be an integral part of these interests. That is, the project may represent an opportunity to the staff of the school to put into operation a set of plans which have been present for some time. The project may be of interest, on the other hand, to a very limited group within the university and may, therefore, attract little support from other segments. Finally, the project may be administratively

located outside the formal structure of the university and may be related only to it by virtue of some ad hoc consultantive services or course work. We want to know the consequences of this variation in association with the IHE on the IHE itself. How do projects fare in these different contexts and what implications does this have for their continued existence and support, and for the possibility of change within the IHE itself.

- Organizational Characteristics of the Project

Here we want to know what aspects of the projects' relations to the IHE and the LEA, curriculum, or trainee behavior which might be related to the internal structure of the project. Most organizational theory suggests that there should be some relationships, that the decision making procedures within the project should constrain the processes by which the project reaches out to other institutions and the way by which the project deals with institutional response to its overtures. Further, organizational structure speaks directly to the issue of individual participation in decision making, which should bear on individual satisfaction, morale, and commitment to project goals for both project staff and trainees.

- The Project's Training Curriculum and Practicum.

The focal issue here is whether the curriculum of these change-oriented projects considers the possibility of providing training and practice in change for their trainees. An alternative strategy for a project is to concentrate on providing conventional, in-service professional education. We want to know how projects fare when they utilize a program designed to stimulate change in either of the institutions with which they interact, and how they differ from those projects which are designed not to change, but to service these institutions. We also have an interest in the effect of behaviorial objectives used in teacher training.

- The Relations of the Trainees to the Project.

Here we want to explore the factors which might be associated with attracting and supporting change-oriented trainees, as well as those factors which do not command the commitment of such trainees. What

kinds of trainees might be recruited to facilitate the development of a cadre of change agents, and what are the characteristics of projects that seem to attract such trainees?

- The Relation of the Project to the LEA.

  What kinds of projects relate well to LEAs and which remain isolated from the real world of public schools? We want to know how LEAs respond to the overtures of the projects and how the projects deal with LEAs in the context of variables such as the nature of the change orientation of the project.

These, then, are some of the first broad issues we used in examining our data. As we moved more deeply into analysis, models of inter-institutional relations emerged and related issues were examined. We shall deal with these as the results of our explorations are presented.

Significance Levels

In this section, we present the detailed results of our investigations of the broad models presented in the previous section. These general areas for examination were made more specific, appropriate variables were selected that addressed the issues, and the empirical evidence supporting (or not supporting) our notions was collected. Each of the five areas will be discussed in turn.

In the following discussions, correlations will be referred to as being significantly different from zero or as not being significantly different. Throughout, the cutoff points for the correlations will be .46 for the .05 level of significance and .65 for the .01 level, each assuming N = 13. Reported correlations will not be explicitly designated as significant at a given level. Of course, there is some question as to whether we really want to speak in terms of statistical significance, given the fact that the sampling procedures used in selecting the sites violate the principal assumptions of the significance test. To appease both sides of this controversy, the statistical significance of correlations will be acknowledged, but non-significant correlations may still be discussed.

STUDY FINDINGS

Relationship of the Project to the IHE

The central issue here is the degree to which a NCIES project is acceptable to the IHE with which it is involved. The most obvious measure of this is the constructed variable called "Centrality of project to IHE," Variable D*, which is composed of the rating scales relating to the centrality of the project's goals to the IHE (Scale 10), the centrality of the project director to the IHE (Scale 12), the general institutionalization of the project within the structure of the IHE (Scale 04) and the interrelatedness of the project with other projects within or without the IHE (Scale 35). The statement that the broadness of the project is related to its "centrality" to the IHE is a definitional statement. The correlational of this scale (35) with the other componants of the "Centrality" Variable are quite high, providing empirical confirmation of the expected relationship.

This suggests the first property of projects that are accepted by the IHE: they are broadly based. A reasonable explanation for this is that broad projects represent a wide range of interests and, therefore, a broad power base.

Those individuals within the IHE who effectively determine whether a project will be institutionalized and receive their sanction (Deans, Department Chairman, etc.) are more likely to recognize the concerns of a project that is merely the special agenda of a small faction or an individual. It is, however, possible that the broadness referred to here is not related to the range of activities taking place within the project. The first constructed variable (Service Orientation) also includes scales relating to the range of skills and functions within the project. The correlation between this variable and the IHE institutionalization variable is 0.23, not significantly different from zero. This indicates that broad, institutionalized projects may or may not have a wide range of topics and skills within its program.

Since we have found that projects that are intrinsic to the IHE have multiple inputs (as a result of its broadness involving many diverse actors), it is reasonable to suppose that this would lead to confusion within the

---

*For specific content of each variable and scale, the reader is referred to the preceding sections: "Individual Scales: Description," and "Constructed Variables." Lists of both the Scales and Constructed Variables are contained in Tables 1 and 2, respectively.

TABLE 1

SUMMARY OF RATING SCALE DESCRIPTIONS

SCALE	TITLE	DIRECTION
1	Source of training staff	Outside--inside project
2	Type of decision making	Hierarchical--democratic
3	Dependence on external funds	Total--none
4	Degree of institutionalization (anywhere)	Not--all institutionalized
5	Size of departure from former goals	Great--none
6	Controversy attributed to above discrepancy	Great--none
7	Range of expertise required by client	Wide--narrow
8	Range of expertise required of trainers	Wide--narrow
9	Centrality of objectives to LEA	Very central--not
10	Centrality of objectives to IHE	Very central--not
11	Centrality of project director to LEA	Very central--not
12	Centrality of project director to IHE	Very central--not
	Congruence of perceptions about change:	
13	between director and staff	High congruence--none
14	between staff and trainees	High congruence--none
15	between director and LEA	High congruence--none
16	between trainees and LEA teachers	High congruence--none
	Congruence of perceptions about project:	
17	between director and staff	High congruence--none
18	between staff and trainees	High congruence--none
19	between director and LEA	High congruence--none
20	between trainees and LEA teachers	High congruence--none
	Commitment to project goals for:	
21	project director	Committed--not committed
22	project staff	Committed--not committed
23	project trainees	Committed--not committed
24	LEA staff	Committed--not committed
25	Function of practicum in LEA	Support of LEA--not
26	Function of practicum in IHE	Intrinsic--extrinsic
27	Transportability of training	Total--none
28	Orientation to applied change theory	Positive to change--not
29	Service orientation of staff	Service--not service
30	Change orientation of staff	Change--not change
31	Role of senior staff value system	Important--not
32	Innovativeness of trainee role	Innovative--traditional
33	Willingness of IHE to change	Willing--unwilling
34	Willingness of LEA to change	Willing--unwilling
35	Interrelatedness with other projects	Very--not
36	Behavioral orientation	Behavioral--not
37	Support for other innovations	Supportive--not

Note: All scale are scored from 1 to 7, left to right. For example, for scale 1, an outside source of training would be scored 1, and internal source would be scored 7.

TABLE 2

SUMMARY OF CONSTRUCTED VARIABLE DESCRIPTIONS

VARIABLE	TITLE	DIRECTION
A	Service orientation of project	Service--not service
B	Presence of change training in project	Training present--absent
C	Staff orientation to change	Negative--positive
D	Institutionalization of project in IHE	Not institutional--very
E	Relevance of project to LEA	Relevant--not relevant
F	Innovativeness of project	Innovative--not innovative
G	Within project agreement	High agreement--none
	G1: Agreement about change G2: Agreement about project operations G3: Agreement about both change and operations	
H	Riskiness of project	Very risky--not risky
I	Attractiveness of project to trainees	Attractive--not attractive
	1: Innovativeness of project	very--not
	2: Independence of project	independent--not
	3: Staff openness/innovativeness	very--not
	4: All of above	attractive--not attractive
J	Similarity of trainees to LEA teachers	similar--dissimilar

project about its goals. Such confusion will most likely be manifested in the relationship between the staff and the project trainees. Rating scales 14 and 18 measure the congruence of perceptions between these two groups concerning project goals and project operations respectively. The correlations between the IHE variable and these two scales separately and individually (acting as constructed variable G2) should provide a test of this hypothesis. The correlations between scale 14, scale 18 and their composite are .89, .55 and .76; each statistically significant. Taking into account the directions of the scales, these correlations indicate that projects that are institutionalized within the IHE have less congruence between staff and trainees. Table 4 illustrates this relationship.

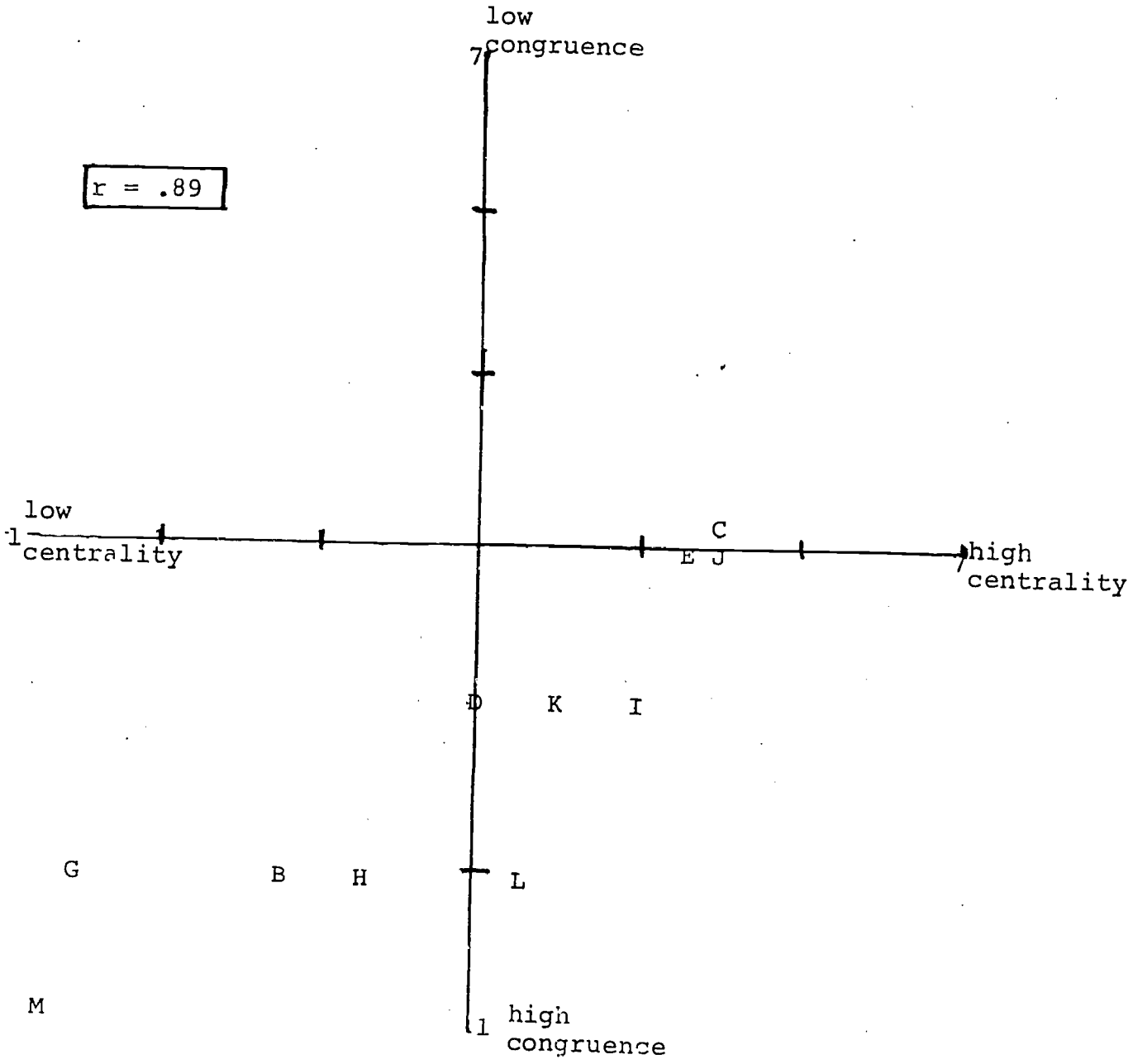
We may also consider the relationship of Scale 35, effectively the extent of linkages with other projects, with these agreement indicators. These correlations, in the same order as above, are -.77, -.57 and -.72. The change in sign is due to the fact that Scale 35 was negatively weighted with respect to the other scales on the IHE Variable. These significant correlations may be interpreted as meaning that many linkages are associated with less congruence of perceptions. This finding is consistent with the notion that broadly based projects involve multiple inputs and agenda which result in inconsistencies in the perceptions of the staff and the trainees.

Broadly based projects (containing such inconsistencies) have a variety of possible attributes. Projects may have rigid, hierarchical decision making structures, in which all major decisions are made by the few top staff members, or may be more democratically organized and involve all levels of project staff and trainees in the decision making process. Indeed, the correlation between Variable D (the extent to which the project is intrinsic to the IHE) and Scale 02 (the type of internal decision making) is only -.29. Although this correlation is not statistically significant, the negative sign indicates that increasing institutionalization might be related to increasing centralization of decision making. This is not entirely consistent with the notion of a broad project with many kinds of individuals associated with it, but this might, in fact, be the way in which university-based projects tend to operate. In order to look at this issue, consider the correlation between the "IHE Variable" and the controversy rating scale (Scale 06). Again, the correlation

TABLE 3: PROJECT IDENTIFICATION CODE FOR FOLLOWING TABLES

CODE LETTER	CODE NAME	PROGRAM
A	Aurora University	Early Childhood Training of Teacher Trainers Program
B	Bayport, Old Brunswick	Career Opportunities Program
C	Beecham University	Teacher Corps Program
D	Cotunket, Catawba	Educational Leadership Project
E	Hermosa State University	Special Education Program
F	Edwardia State Department of Education	Vocational Education Program
G	Johnston, Van Buren	Special Education Project
H	Mathis, Atlantica	Training Teacher Trainers Project
I	West Kingsland University	Teacher Corps
J	University of Franklinia Medical School	Early Childhood Program
K	University of Riceville	Training of Teacher Trainers
L	Sussex, North Monroe	Career Opportunities Program
M	Ocmulgee State University	Pupil Personnel Services

TABLE 4 THE CENTRALITY (Variable D) vs. STAFF/TRAINEE CONGRUENCE (Scale 14)



Projects A and F received "not appropriate" ratings on scale 14

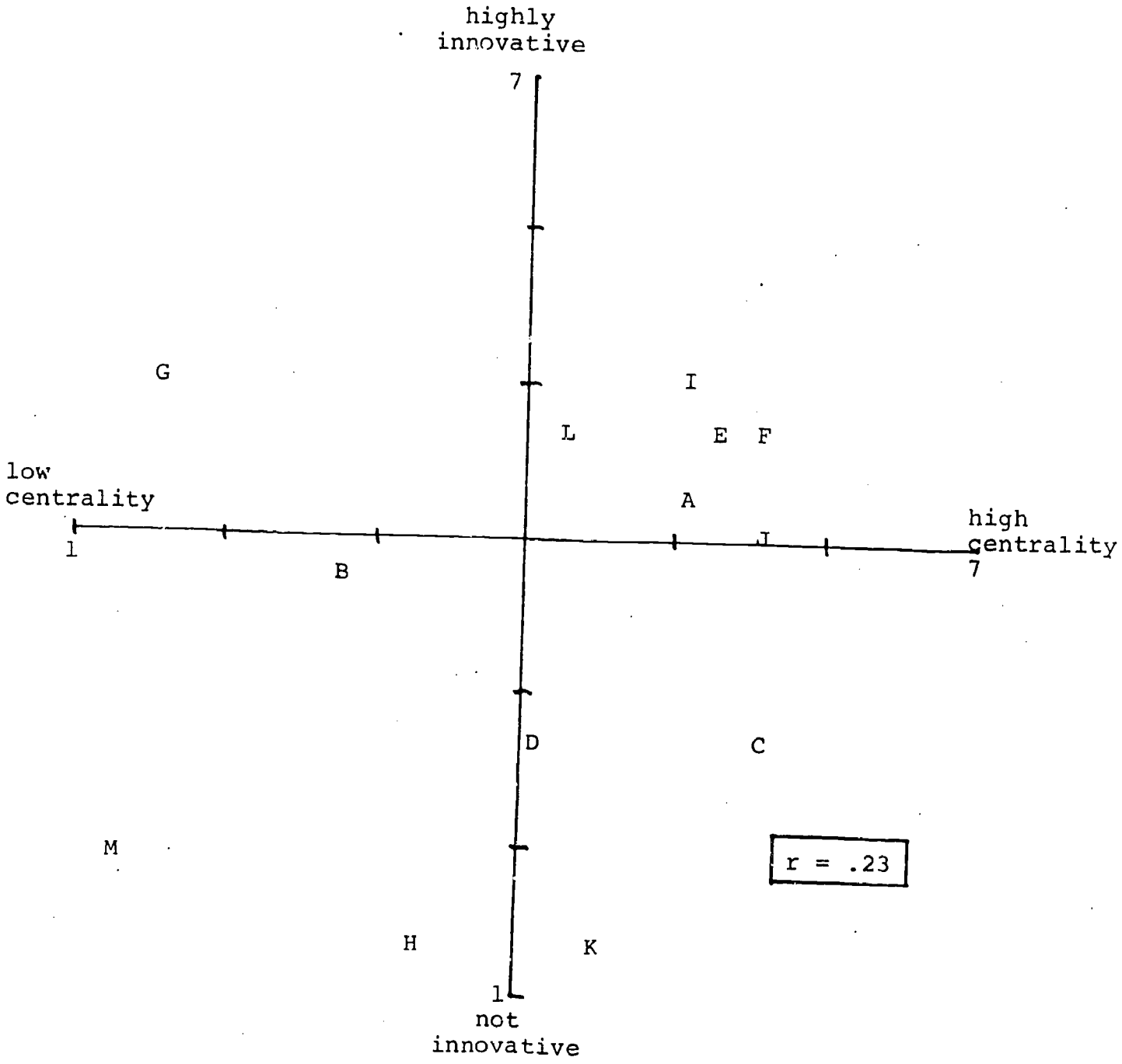
is not significant (.36), although the direction suggests that less controversy may be associated with greater institutionalization of the project within the IHE. This is consistent with the possibility that projects which are institutionalized tend to be hierarchical in their decision making. This relationship is consistent with the finding that projects with such organizations are less likely to be controversial. These are highly tentative suggestions to be sure, but they represent a part of the picture which is emerging about the operation of projects which are deeply imbedded in the IHEs.

The above interest in the project's relationship to the IHE presumes that there will be some relationship between this and the innovativeness of the project and, it is further assumed, its eventual impact on educational organizations. There are two competing expectations here, each suggesting correlations with opposite signs. One holds that institutionalized projects are inherently conservative and have been "co-opted" by the IHE: the relationship between innovativeness and institutionalization will be negative. The other holds the view that, since we have observed that institutionalized projects are broadly based, they will tend to, by their very nature, attract innovation. Hence the relationship should be positive.

The evident test of the two hypotheses is contained in inspecting the correlation between the Variable measuring the degree of the relationship of the project with the IHE and the innovation Variable (Variable F). This correlation is .23; there is effectively no relationship between project centrality and innovativeness. Table 5 portrays this relationship. It is reasonable to expect that this correlation has been affected by the influence of other variables. Consequently, it will be useful to partial the effects of several suspect variables out of this correlation.

One factor that may be attenuating the relationship is the extent to which the project is service oriented (as measured by Variable A). Institutionalized projects which are delivering highly specific, service-oriented, problem-based training to LEAs may be uninnovative by definition. But there is still the possibility that a project which is institutionalized but delivering wide-ranging, change-oriented training may be innovative. If we statistically hold constant the service orientation of the projects (by computing a partial correlation), we will observe that the correlation between the IHE relationship and innovation, holding service orientation constant, is .44. This coefficient is not quite significant, but indicates a strong negative trend: projects

TABLE 5 THE CENTRALITY (Variable D) vs. INNOVATIVENESS (Variable F)



which are closely related to the IHH (intrinsic or institutionalized within the IHE) tend not to be innovative when their service orientation is accounted for.

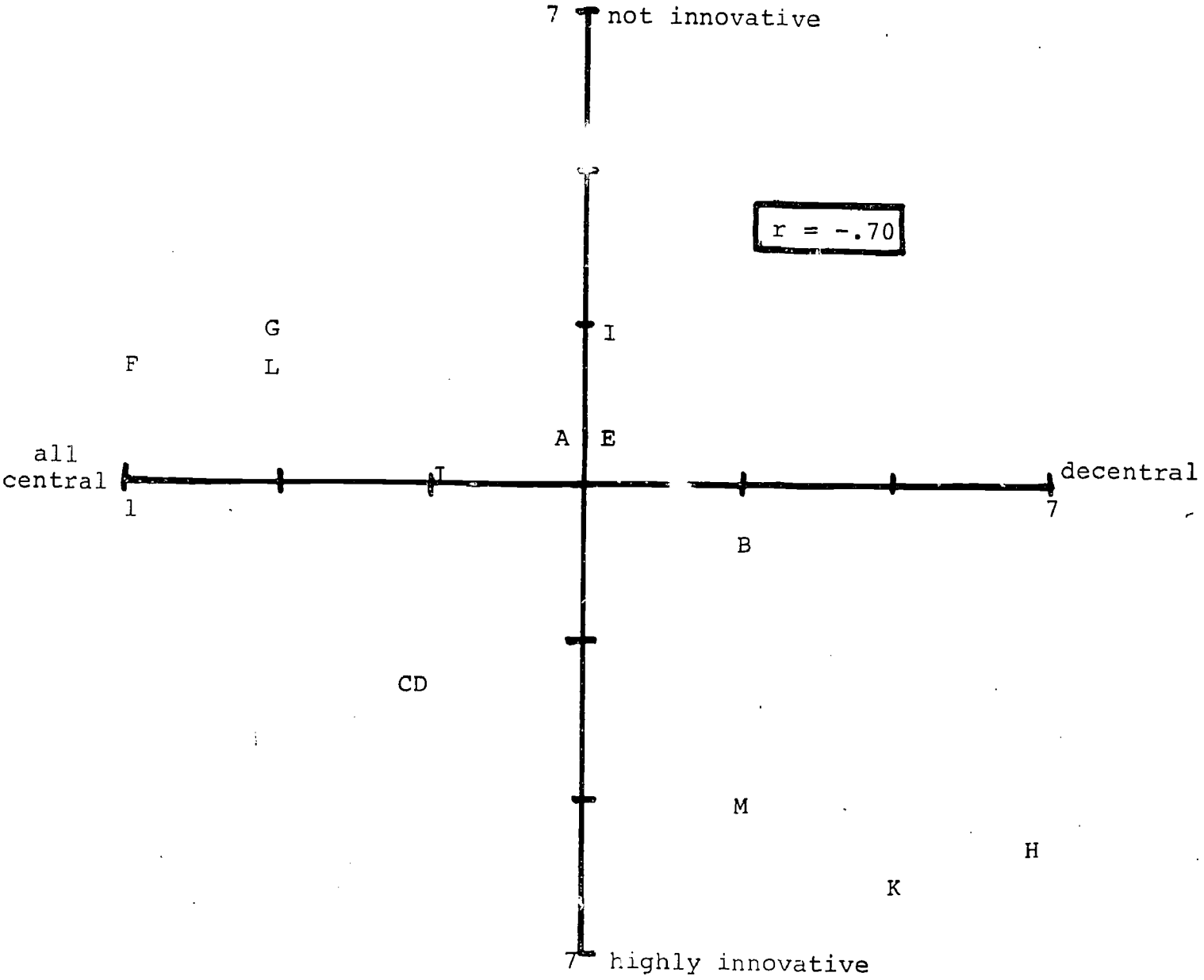
The nature of an institutionalized project may be related to its curriculum or its staff's orientation to change. The constructed variables relating to these factors, Variables B and C, may be controlled for is studying the relationship of institutionalization and innovation. These partial correlations are both lower than the original simple correlation of .23 (.08 and .14 respectively), suggesting that the relationship observed in the above zero order correlation is to some extent the spurious result of both intrinsicness and innovation varying with the value system and curriculum of the project. The second order partial, controlling for both Variable A (service orientation' and, for example, Variable B, (change oriented curriculum) should provide a test of this. This partial is .30, a bit smaller than the partial removing only Variable A, and is essentially the same as the original simple correlation. It would appear from these correlations that the orientation of the project (service, change or whatever) is really the variable most strongly associated with innovation. This will be explored in a later part of the results section.

These results need to be considered in the light of the fact that both democratic decision making procedures and controversy are highly correlated with innovation (.70 and .88 respectively - see Table 6). This means that projects which are democratic and those which are controversial are likely to utilize innovative practices. At the same time, projects which achieved a strong relationship with the IHE show nothing like this kind of innovation. They also are not likely to support other innovations and have little bearing on the IHE's willingness to change. The correlations between institutionalization within the IHE (Variable D) and the scales for support of other innovations (Scale 37) and IHE willingness to change (Scale 33) are -.32 and -.28, respecitvely. This latter finding suggests a new variable which may be partialled out of the correlation between institutionalization and innovativeness: Scale 33, the willingness of the IHE to change. This partial correlation is .36, indicating that the willingness of the IHE to change does mediate this correlation. This suggests that those innovative projects that become institutionalized do so within an IHE that is willing to change.

One other consequence of achieving a stable position within the IHE

TABLE 6

TYPE OF DECISION MAKING (Scale 2) vs.
INNOVATIVENESS (Variable F)



might be the willingness of the project to take risks in trying new notions. The risk variable, described elsewhere, is similar to but not quite the same as innovation, and shows the same correlation with the institutionalization variable as does the innovation factor (r = .31). Once again, there seem to be no simple relationships which emerge from the institutionalization measure. Some projects do get deeply embedded in their IHE and others do not, but this does not appear to be related to the nature of the project.

Finally, there appears to be no relationship between the degree of institutionalization of the project and the attitude of the LEA toward the project. The LEA commitment variable (Variable E) and institutionalization are essentially uncorrelated (r = -.26).

Summary of Findings

The central issue here is the acceptability of a NCIES project to its IHE, sometimes referred to as institutionalized or intrinsic. We find, first, that projects which are acceptable to their IHEs are broadly based, representing a wide range of issues and people. Such broadness is not necessarily related to the actual activities taking place within a project; a broadly based project may or may not have a wide range of curriculum topics. Also, broadly based projects which are central to their IHEs evidence less congruence between staff and trainees, most likely as a result of multiple inputs to project goals and practices.

Are broadly based project characterized by centralized or decentralized decision making? At first glance these findings are perhaps not what might be expected of broadly based projects involving a variety or people and issues, but this might actually be the way university-based projects tend to operate.

What of innovativeness? The findings above suggest two competing hypotheses: 1) an institutionalized project, being centralized and non-controversial, is inherently conservative; 2) the broad base of an institutionalized project must encourage innovation. Neither hypothesis is strongly supported by the data, but we do find a slight negative trend. If the service orientation of the project is held constant, more intrinsic projects are found to be less innovative.

More important, democratic decision making procedures and controversy are both highly correlated with innovation. That is, projects which are democratic or controversial are associated with innovative practices. Projects central to their IHEs are not nearly as likely to be innovative, nor are their IHEs willing to change. Thus it would seem that innovative projects which become institutionalized do so within an IHE which is willing to change.

From these findings a model begins to emerge. Projects characterized by IHE acceptance, a broad base, and lack of controversy tend not to be innovative. Innovative projects are decentralized and more controversial, less likely to be accepted by the IHE.

The Organizational Characteristics of the Project

The major organizational property to be examined here is the decision making procedure within the project. We are interested in the extent to which the procedure includes a range of participants at several project levels. It is clear from the description of the relevant rating scale that the distribution of scores on Scale 2 (type of decision making) is very wide, leading us to expect that a variety of project operations would be associated with this variable. This is not surprising since the organizational literature associates this kind of a variable with many organizational factors such as the morale of participants, the attractiveness of the project to the participants, communication patterns within the project, and other critical dimensions.

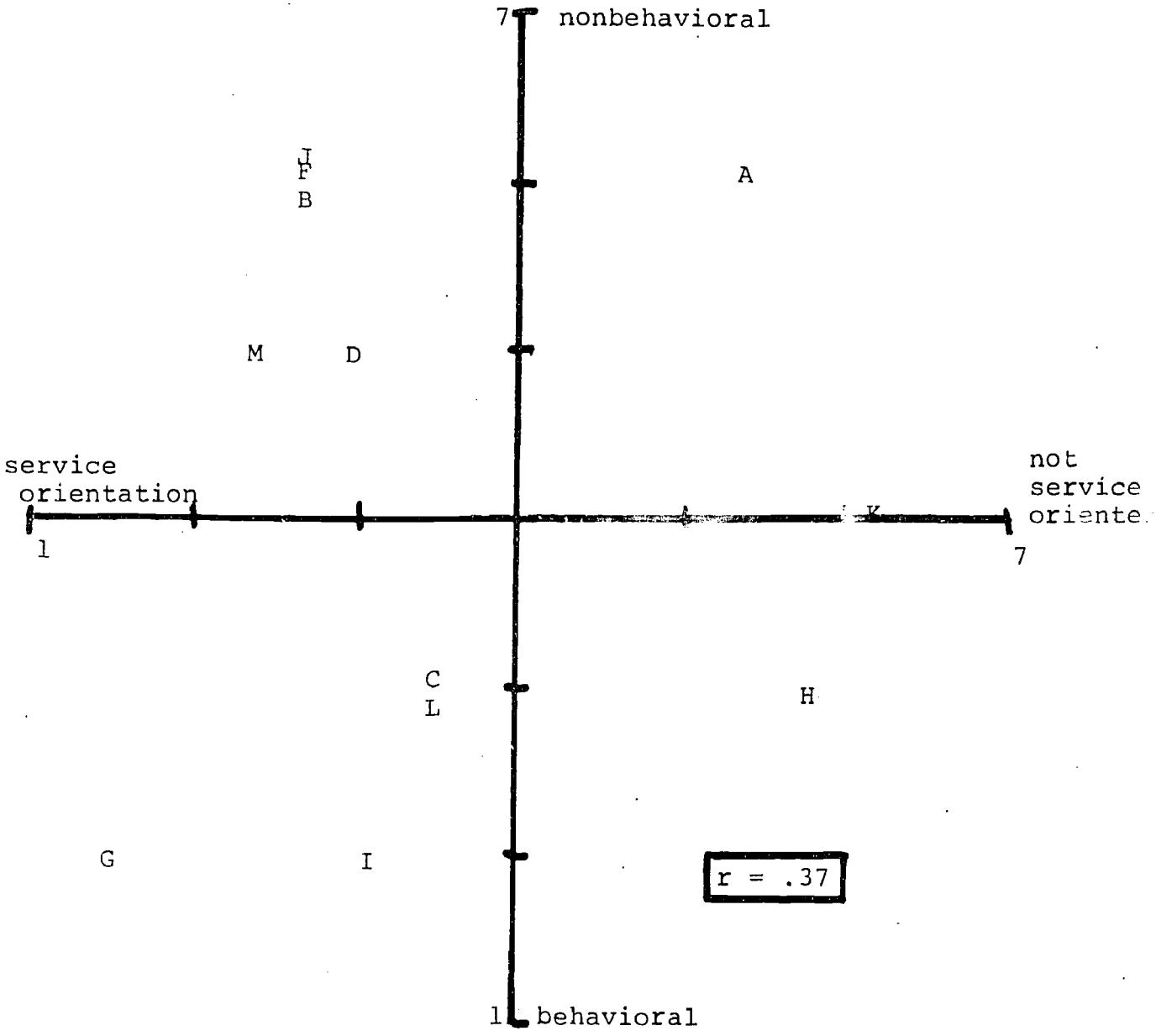
The first important issue involving Scale 2 is its relationship to Variable F, Innovation. The correlation between these two is -.70, (see Table 6), which indicates that the more hierarchical a project, the less likely it is to be innovative; decentralized projects are more likely to be innovative. It is necessary to establish the basis for this association, since this organizational property is central to so many dynamics. There is a possibility that a change-oriented value system within the project may be associated with the style of decision making and that this is the source of its association, since this organizational property is central to so many dynamics. There is a possibility that a change-oriented value system within the project may be associated with the style of decision making and that this is the source of its association with innovation. The correlation between Scale 2 and our measure of change oriented theory (Variable C) is only .23, not significantly different from zero.

In order to further check this point, the effect of Variable C was controlled for in the correlation between Scale 2 and Innovation. The resultant partial correlation is -.62, which does not represent a significant drop from the zero order correlation. The organizational structure of the project seems to be significantly related to innovation independent of the value system present in the project. Causally speaking, it is clear that the value system has little effect on either the decision making patterns or the innovativeness of the project. We cannot, however, be so certain about the causal relation between innovation and decision making. The decision making structure may facilitate innovation, innovative projects may require such an organization or there may be some reciprocal relationship.

On the other hand, it is apparant that hierarchically organized projects are not likely to provide change training for their participants. The correlation between decision making style (Scale 2 and Variable C)(the presence of change training) is -.44. Further, if we control for Variable B (value of change in the project) in the relationship between decision making and innovation, the resulting partial correlation between decision making and innovation is -.61, little changed from their zero order correlation. We infer from this that, regardless of the value placed on change by the project staff or the presence of change training in the project curriculum, the organizational structure of the project is very closely related to innovation. Projects with more democratic decision making patterns are mare likely to be innovative.

There are several aspects of hierarchical projects which should be noted. They tend to be isolated rather than interrelated with other projects, as indicated by the correlation of .55 between Scale 2 (decision making) and Scale 35 (interrelatedness). However, LEAs are likely to consider them relevant to their interest: the correlation between Scale 2 and the LEA variable is .49. At the same time, there is a slight, nonsignificant tendency for centralized projects to be considered "behavioral", as the correlation of type of decision making and behaviorism (Scale 36) is .38. (See Table 7) Our data is beginning to indicate that behavioral objectives and their associated structures (performance criteria, for example) may be inappropriate methods for teacher training, especially if the training is in the methods of implementing organizational change. This may be a result of the fact that the objectives in use are not well written, because it is difficult to specify the behaviors of a good teacher, but it still is clear that projects which do provide change training do not use behavioral approaches to the training of their participants. Perhaps this is because a performance based approach allows trainers to "cop out" and avoid the issues of teacher training by placing the burden on the objectives, but an equally appealing alternative is the fact that behavioral approaches produce people with a standard set of skills yet a change agent must be flexible and able to deal with situations in the real world that no one could predict. The implications of this finding will be discussed at length in a later section.

TABLE 7 SERVICE ORIENTATION (Variable A) vs. BEHAVIORISTIC ORIENTATION (Scale 36)



There is contained in these relationships an emerging model stating that projects with rigid decision making structures and a lack of innovativeness tend not to be associated with other projects, tend to apply behavioral objectives and are considered relevant by the LEAs. This is a picture of a project which is closely related to an LEA and oriented to safe, non-disruptive supportive activities. We expect to find little change training in their curriculum, and this is supported by the correlation of scale 2 and the change training variable (Variable B) of -.44. Projects with hierarchical decision making procedures are service oriented: The correlation between Scale 2 and Variable A (service orientation) is .62. Most importantly, these hierarchical projects tend to have trainees who are not committed to the project. This is borne out by a correlation of -.48 between commitment (Scale 23) and type of decision making. Finally, the correlation between centralization of decision making and our "risk" variable is -.83, indicating that hierarchical projects are not about to be venturesome to upset the status-quo.

Summary of Findings

The nature of project decision making is the major organizational issue; the wide distribution of scores on this scale suggests that a variety of project characteristics might be associated with the variable, a result which is consistent with the literature. To begin with, we find that democratic decision making patterns are associated with innovativeness. Innovativeness appears to have little to do with staff values towards change or the change orientation of the staff and training program. Regardless of the content of the program, therefore, the decision making structure of the project is very significantly related to innovation.

Hierarchical projects tend to be isolated rather than interrelated with other projects, to be associated with LEAs which consider them relevant, and to be behavioristically oriented. They also tend to have little change training in their curricula, to have trainees who are not committed, and to avoid taking risks.

These findings strengthen our emerging model. Decentralization of decision making is indeed strongly associated with innovativeness more so than the content of the project's training program. In addition to being broadly based and non-controversial, hierarchical projects are isolated from other projects, closely related to their LEAs, and oriented to specific supportive service activities which do not inspire trainee commitment.

TABLE 8 TRAINING FOR CHANGE (Variable B) vs. INNOVATION (Variable F)

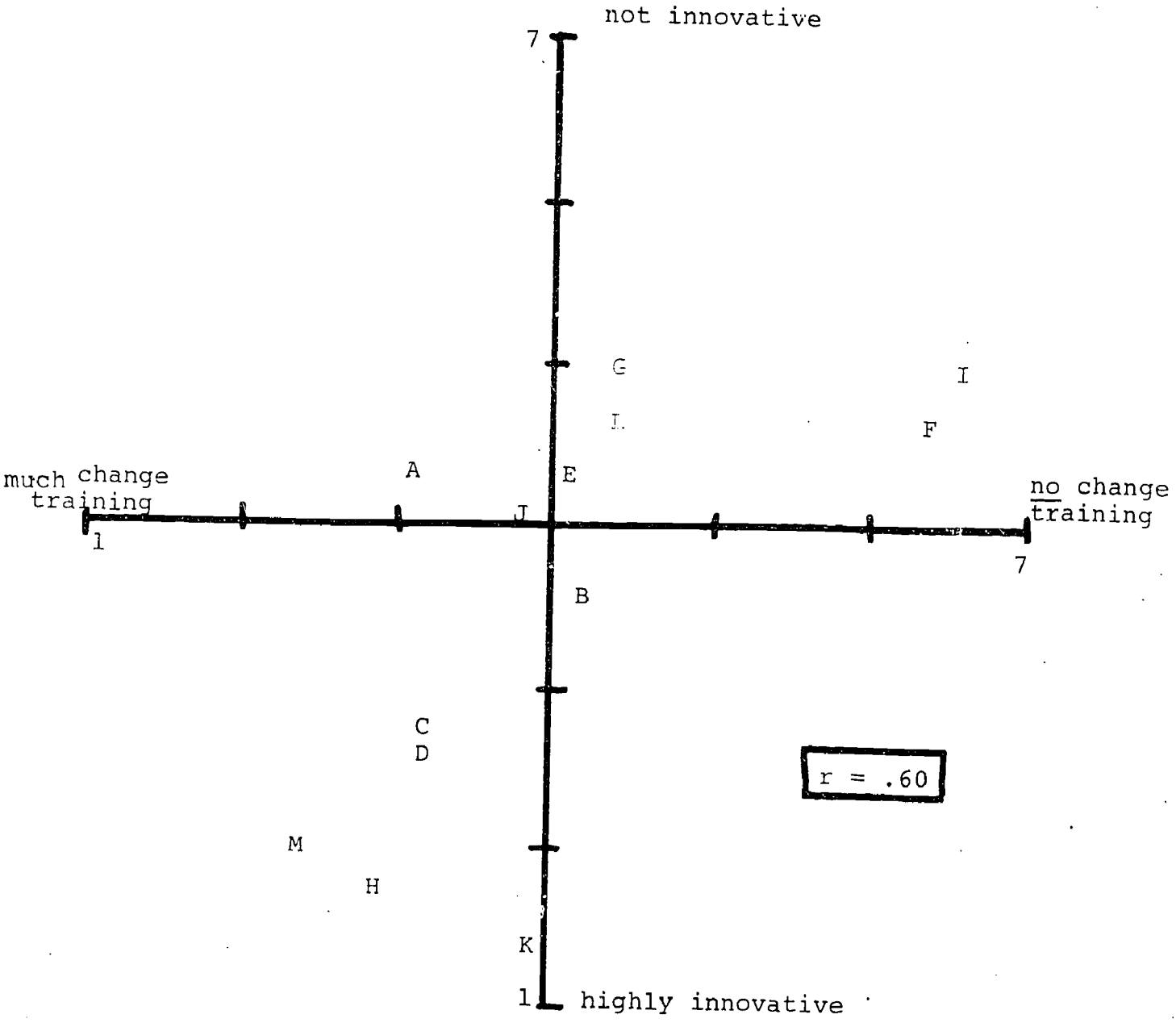
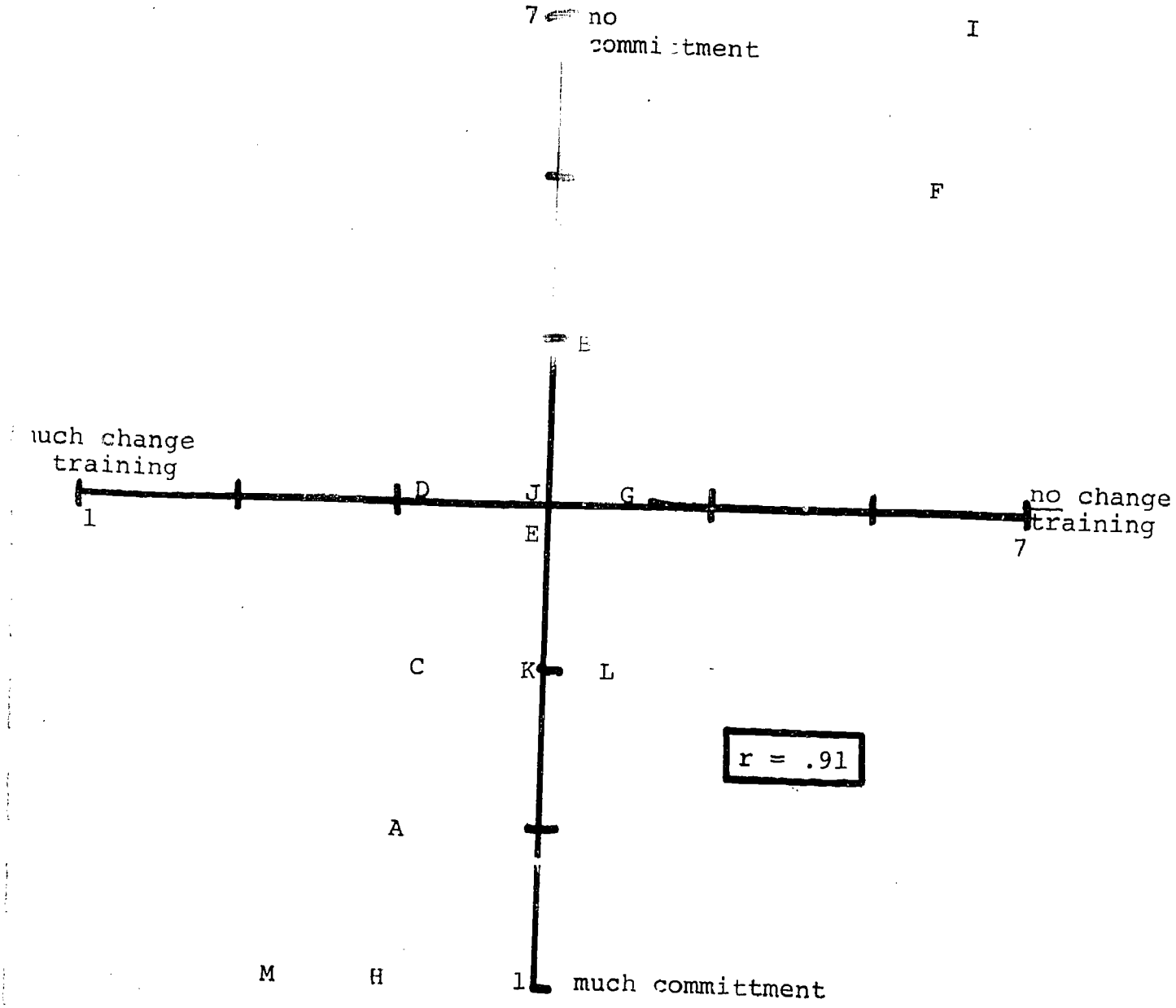


TABLE 9

TRAINING FOR CHANGE (Variable B) vs.
TRAINEE COMMITTMENT (Scale 23)



The Training Curriculum and Practicum

We have several variables that are directly related to the issue of curriculum (which actually includes the practicum). Constructed variable B refers to the presence of change training in the curriculum. Rating scales 25 and 26 measure the extent to which the practicum is seen as central to the operations of the LEA and IHE respectively. Finally, scale 36 relates to the degree to which the project bases its operations on behavioral grounds.

Our first major finding is that innovation is likely to occur when there is change training in the curriculum, as indicated by the correlation between Variable B change training and Variable innovativeness, r = .50 (See Table 8). However, this is more a statement of the construct validity of the change training variable than a finding of significance, but it helps to clarify the nature of change training. If Scale 32 (Innovativeness of trainee role) is removed from the innovation variable and correlated by itself with Variable B, the coefficient is .85. Clearly, change training means training in new functions for the trainees. The consequence of this for the attitudes of the trainees toward the projects ought to be very positive. The correlation between Variable B and Scale 23 (Committment of trainees to the project) is .91, indicating that this is, in fact, the case (See Table 9). That is, trainees are found to be committed to projects which provide training in the methods of change, implying that the trainees are being prepared for new roles in the educational system. However, the nature of change training can be further explored.

It is reasonable to expect that change training might occur in a project that is interrelated with many other projects. The correlation of Variable B (change training) with Scale 35 (interrelatedness) is only .10, indicating that there is no systematic input from a variety of contacts (the cosmopolitanism of the project, as it were) which contributes to its change orientation. Further, the extent of change oriented training is not related to the extent to which the project is institutionalized within the IHE, as indicated by the correlation of .28 between Variable B and Variable D (institutionalization of project within IHE). However, if Scale 35 (interrelatedness) is controlled for in this relationship, the partial correlation of IHE relation and change training increases to .48. This indicates that

projects which are solidly based in the University, independent of the extent to which they are interrelated with other projects, do have the resources to try new methods of training. This is confirmed by the correlation between Variable B and the Risk Variable (Variable H), which is .61. Even though projects which are institutionalized are not necessarily innovative projects, they do tend to have a change orientation to their training programs, and also tend to have a willingness to be venturesome in their procedures.

The change oriented training program should be relat[illegible]easure of the ext[illegible]nphasis [illegible]hange theory is present in the project. The correlation between Variable B (change training) and Variable C (values) would test this notion, and the correlation of -.50 between them (when taking the direction of the loadings on these variables into [illegible]count) indicates that this is, indeed, the case. Further, if Scale 30 (Change orientations of the senior staff) is related to Variable B, the correlation is increased to .60. This indicates that t[illegible] theoretical values of the senior staff is the central dimension in associating with the nature of the training program. Further, if we turn the issue around, it is clear that in those projects in which there is a strong committment of the senior staff to change theory, there is also a strong tendency for the training to be transportable to the real world. This relationship is suggested by a correlation of .72 between transportability (as measured by Scale 27) and the change orientation of the senior staff. On the other hand, projects in which the senior staff has a strong service orientation do not necessarily provide their trainees with transportable skills. The correlation between service orientation and transportability is -.17. This suggests that service oriented projects do not necessarily translate their intentions for providing specific skills for particular real world problems into appropriate training programs. Some of these projects do and some do not, but there is a much greater tendency for projects which are change oriented rather than service oriented to be associated with transferable skill training. We were interested in trying to determine if the lack of transferability of skill training in service oriented projects was a function of the interest of the service oriented projects in change theory. That is, we wanted to know if service oriented projects which also have a change theory component might produce more transferable skill training than service oriented projects without a change theory interest. Since change orientation and service orientation

correlate but .01, indicating that the two dimensions are independent, such a situation is possible. Partial correlations with several variables controlled for did not alter the above relationships, and we are left at this point with the most interpretable result being the low relationship between service orientation and transferability of skill training. One final aspect of the change training nature of a project ought to be examined here. The response of the trainees to the project is a critical matter. Here it is apparent that trainees who are in projects which are strongly oriented toward change training are highly committed to the project (r = .91).

We turn now to the consideration of the content of the curriculum in behavioral terms. Scale 36 measures the extent to which the goals and procedures of the project are stated with behavioral criteria attached to them. This scale loads negatively on the change theory variable (Variable C), indicating that projects which are interested in change theory tend not to assign great weight to the task of establishing performance criteria in specific terms. On the contrary, their interests are global and not easily stated in behavioral terms. Projects with behaviorist orientations have a slight but nonsignificant tendency not to be innovative, as shown by the correlation of -.31 between innovation (Variable F) and behaviorism (Scale 36). Further, such behaviorist projects are characterized by staff who do not have strong change orientations (shown by a correlation of -.53 with Scale 30), who are instead strongly service oriented (a correlation of .52 with Scale 29), but whose value systems do not play an important role in the operation of the project (a correlation of -.52 with Scale 31). Behavioral criteria also seem to be present where the project director is in close agreement with the LEA about the nature of the goals and strategies of the project, as indicated by a correlation of .70 between behaviorism and Scale 19. This is also true in cases where the project director and the trainees both have perceptions about the magnitude of change required in education that are congruent with those of the LEA. This is indicated by correlations of behaviorism and Scale 15 and 16 of .73 and .69 respectively. There is no relationship between trainee commitment and behavioristic orientation of the projects (r= -.24). This contrasts with the previously reported tendency of commitment of the trainees

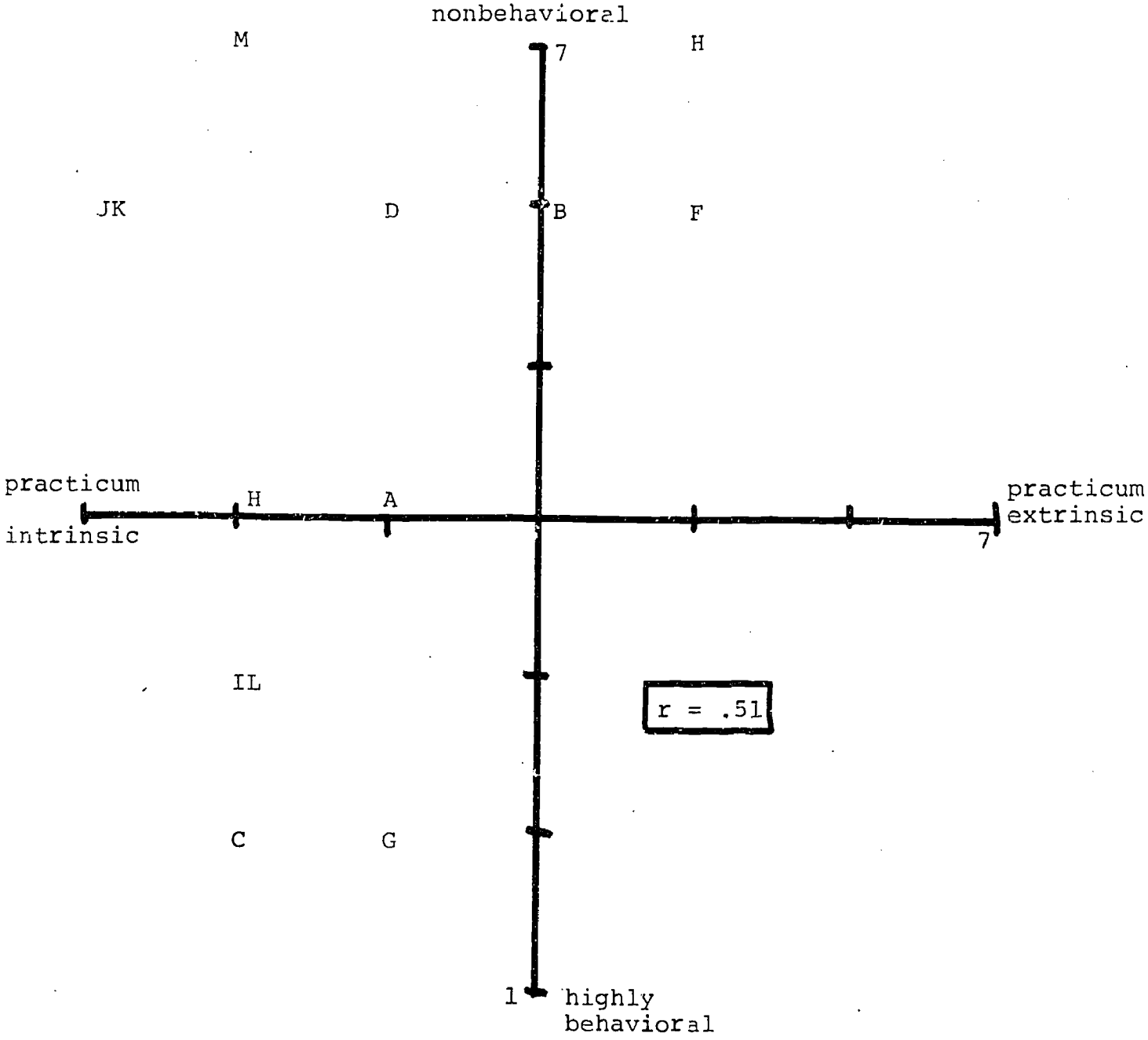
to change training projects (r= .91). Finally, there is a tendency for behaviorally oriented projects to tend to be conservative in their approaches as measured by the Risk Variable (r= -.43).

We turn now to the practicum, a central aspect of all NCIES projects. We have looked at this in two ways: whether the practicum is related to the interests of the LEA and supported by it (Scale 25), and whether the practicum is an integral part of the IHE training program or an ad hoc exercise added to the program (Scale 26). We find somewhat different patterns of relationships between the practicum and other aspects of the projects depending upon which scale is used. Thus, if the practicum is supported by the LEA, it tends not to be innovative (r = -.45), but if it is intrinsic to the IHE, it can be associated with either innovative or non-innovative practices (r = .06). Conservative LEAs will accept conventional practica. The degree to which the practicum is intrinsic to the IHE appears not to be associated with any of the measures which were originally thought to be its correlates. Thus, Scale 26 is unrelated to the innovativeness of the role sought by the trainees (Scale 32, r = -.09) even though trainees seeking innovative roles might be expected to be seeking out closely related practica. On the other hand, a practicum closely related to the LEA's interests is unlikely to be preparing trainees for innovative roles (r = -.39). Projects which deviate from traditional practices (Scale 5) might be expected to generate carefully thought through practica, but the correlation between Scale 5 and Scale 26 (IHE support) is .05. Practica which are supported by the LEA, on the other hand, tend not to be found in projects which are deviant (r = -.32). Trainee committment to the projects (Scale 23) is not related to the degree to which the practicum is intrinsic to the IHE (r = .05), whereas there is a slightly negative, albeit not significant, tendency for trainees to have less committment in projects whose practicum is supported by the LEA (r = -.24).

The relationship between the practicum and the extent to which the project uses behavioral criteria in the training program is an important issue. Do LEAs tend to support practica which are the work of projects using behavioral criteria? The correlation between these two measures (Scales 25 and 36) is .07, indicating that the practica are supported by the LEA for reasons unrelated to this style of project operation. However,

projects which have practica intrinsically related to the work done at the IHE (Scale 26) also appear to utilize behavioral criteria (r= .51). (Table 10) This last is interesting since we expected that closely integrated practica would not necessarily be found with a single style of project. Consequently, we controlled for Variable A (service orientation) from the correlation of Scale 26 with Scale 36, but the resulting partial correlation was not different from the zero order correlation. Our results indicate that projects which tend to have practica closely related to the IHE are also those which tend to utilize behavioral criteria, regardless of the service orientation of the project.

TABLE 10 FUNCTION OF PRACTICUM IN IHE (Scale 26) vs. BEHAVIORISTIC ORIENTATION (Scale 36)



Summary of Findings

Change training in the curriculum is associated with a good deal of innovation. As might be expected, attitudes of trainees towards change-oriented projects are also quite positive when there is change training. What are the sources of curricula oriented towards change?

First, change training programs are not clearly interrelated with other projects. The extent to which a project is institutionalized is more important. Apparently projects which are solidly based in their IHEs, regardless of interrelatedness, have the resources to try new training methods - and the willingness to be venturesome - although they are not necessarily innovative.

Change oriented training programs are positively related to the extent to which projects are characterized by an emphasis on change theory, especially as indicated by the theoretical values of senior staff. Staff values are also related to transferability of skills. In projects where senior staff are strongly committed to applied change theory, training tends to be transferable to the real world. A high service orientation among senior staff, on the other hand, is not associated with transferability.

As for the content of the curriculum in behavioral terms, we find that behavioral projects tend not to be innovative and not to be interested in change theory. Behavioral projects also demonstrate agreement between the project director and the LEA about the goals and strategies of the project, and congruence of perception about the desirability and magnitude of change between the LEA, on the one hand, and the project director and trainees on the other.

Let us now consider the practicum, a key feature of all NCIES projects. Apparently the relationships between the practicum and other aspects of a project are complex. If the practicum is supported by the LEA, it tends not to be innovative. But if it is intrinsic to the IHE, it can be associated with either innovative or non-innovative practices. Similarly, there is no strong relationship between LEA support for the practicum and the extent to which the practicum uses behavioral criteria. However, we find that projects whose practica are intrinsically related to the work done at the IHE do tend to utilize behavioral criteria.

To our model based on a project's relationship to the IHE, and its organizational characteristics, we may now add that change training in the curriculum is associated with both innovation and trainee commitment. Senior staff values are a likely source of such change training. Innovative, change-oriented training programs tend to be non-behavioral and to teach transportable skills. The relationship of project structure and training program content to the practicum - which is outside the IHE - is considerably more complicated.

Selection of Trainees

It will be suggested in the section of the results dealing with the project/LEA relationship that the nature of the project trainees is a critical factor in defining this relationship. It is also reasonable to consider the possibility that the commitment of the trainees to the goals and procedures of the porjects may have an impact on the overall success of the project in meeting its goals.

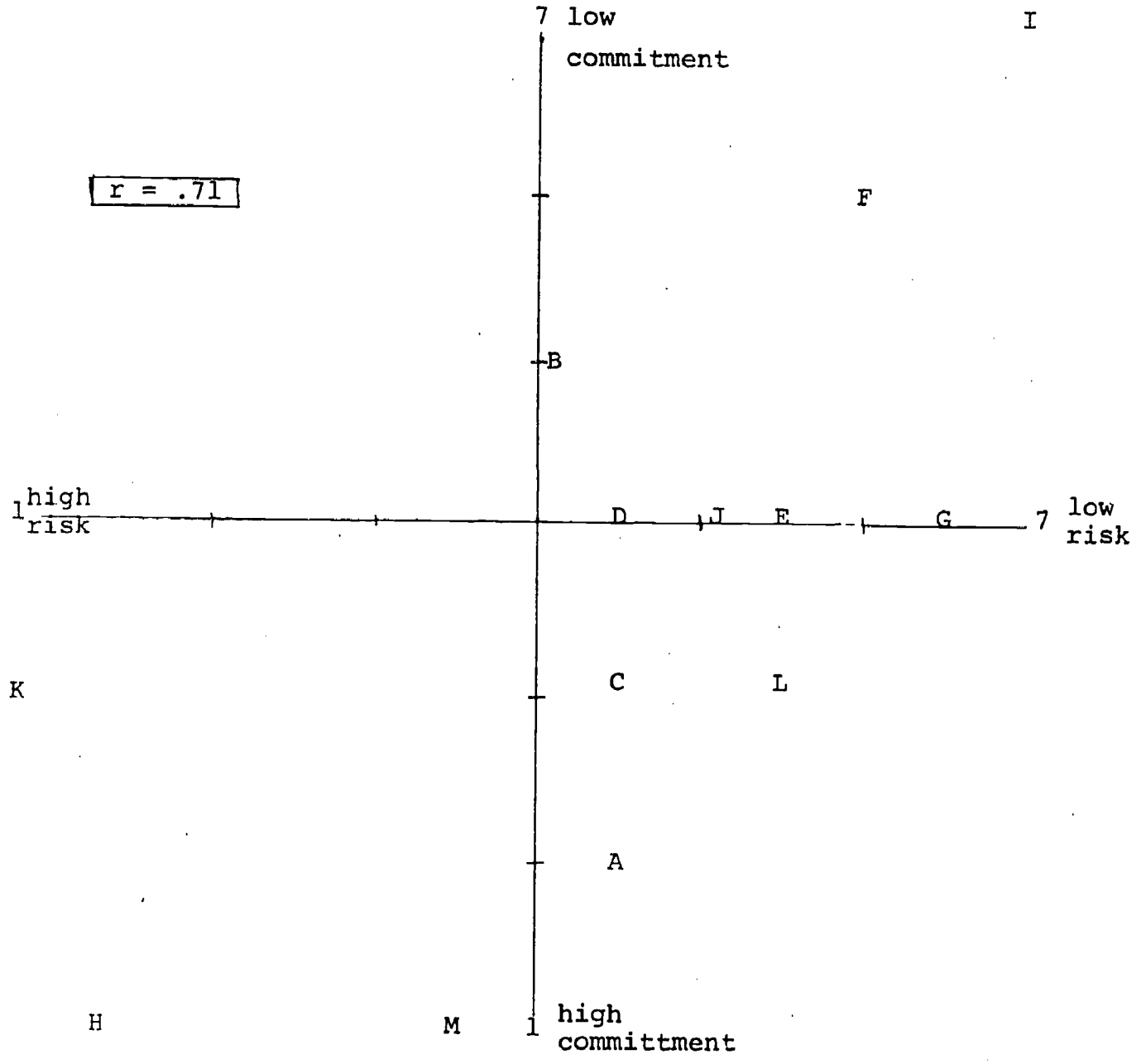
The most obvious measure of trainee quality is the rating scale of trainee commitment to project goals (Scale 23). We should like to explore the possible characteristics of projects that might be associated with committed trainees with the hope that these qualities could be used by other projects in recruiting or planning the project to make it more attractive to such people. A first look at the scales and variables we have available to us indicates that they could be placed in two large classes: those properties of the project which can be manipulated (organizational structure, content of training) and those that cannot (commitment of project director, role of staff value system).

Among the non-manipulable attributes of the project, the most interesting relationship is that between trainee commitment and the innovativeness of the project. Commitment and innovation (measured by Variable F) correlate .63. The "riskiness" of the project (Variable H) correlates .71 with trainee commitment. (See Table 11.) But perhaps even more powerful are the associations between the attributes of the staff and the commitment of the trainees: the role of the senior staff value system (Scale 31) correlates .65 with commitment and the senior staff's value of change (Variable C) correlates .91. This suggests that the trainees commitment may be at least in part a result of the commitment of the staff which they project to the trainees and others.

Aside from the obvious benefits of having a committed, dedicated staff in a highly innovative project, what sorts of project variables that could be manipulated are associated with trainee commitment? The variable relating to the project providing change training (Variable B) is also correlated .91 with commitment: committed trainees are in change oriented projects that provide some useful training for change. Interesting things

TABLE 11

RISK (Variable H) vs.
TRAINEE COMMITMENT (Scale 23)



happen when the range of the project is examined. The correlation between commitment and the range of expertise required of trainers (Scale 8) is .61: a wide range of trainer expertise is associated with commitment. But the correlation between the range of expertise required by the client system (Scale 7) and commitment is only .08; there is no relationship between the range of expertise required by the client system and commitment. However, the project's dependence on external funds (Scale 3) correlates .58 with commitment, indicating that projects that are dependent on external (non-IHE and non-LEA) funds have trainees who are more committed than those in other projects. Stated another way, those projects which are financially independent of the systems that they seek to change are more likely to have committed trainees.

The service orientation of the project (Scale 29) is negatively related to commitment ($r = -.46$), as is the type of decision making within the project ($r = -.48$). The more service oriented, hierarchical projects (and these two have already been shown to be related) tend to have lower levels of trainee commitment. The institutionalization within the IHE of the projects also tends to be associated with less commitment. Scale 10, the intrinsicness of the project to the IHE is correlated -.44 with commitment, indicating that projects more central to the IHE are likely to have lower levels of trainee commitment. However, the simple correlation between commitment and centrality of the project to the LEA (Scale 9) is -.01, indicating no relationship. That is, there may be committed trainees in projects that are central to LEAs as well as noncommitted ones. It seems likely that there is some other variable that would explain the lack of an expected (negative) relationship. We previously found that commitment of LEA staff was a critical variable in these issues. Consequently, Scale 24, the commitment of the LEA staff, was partialled out of the correlation between trainee commitment and LEA centrality. When this was done, the partial correlation rose to -.70, indicating that the commitment of the LEA staff is indeed important here. Once again, the "boundary people" are found to be important to the change process.

The above results led us to develop a model of what makes a project attractive to committed trainees, or to those trainees who are likely to become strongly committed to the goals of the projects. We see essentially a three part model. Attractive projects are broad, innovative and controversial; they are not tied to IHEs and are dependent on external funding; they might be

associated with an LEA if the LEA staff is also committed to the project; they have a democratic structure and are staffed by insiders with a strong, change oriented point of view which is manifested in the content of the project. Variable I (attractiveness) was constructed in order to provide a single measure of this factor. However, factor analysis of the 11 scales and variables that were combined to make the attractiveness measure indicated that a more internally consistent measure would be obtained by measuring the three component parts separately. (See pp. IV-70, 71.)

The three subparts of Variable I, representing innovativeness, (lack of) institutionalization within the IHE, and project structure correlate with trainee commitment (Scale 23) .67, .17, and .61 respectively. The full eleven scale variable correlates .68 with commitment. This suggests that some weighting as derived from a multiple regression procedure, may yield an even higher correlation than unit weighting. The low correlation associated with the second componet is difficult to interpret. It could be the result of the effects of some external variable that is attenuating the true correlation, as has been the case in other relationships we have presented. However, the characteristics of this variable make it appear unlikely. We know, from the formula for the partial correlation, that this other variable would have to correlate negatively with commitment but positively with the attraction variable (or the reverse). We would have to identify something that makes a person more committed, but causes the project to be less attractive, or something that attracts participants but then makes them less committed. This analysis leads us to believe that the IHE institutionalization part of the attractiveness variable is, in fact, less strongly related to commitment than the other parts.

In general, then, we have found that an innovative, democratic change oriented project that is both organizationally and financially independent from the institutions it seeks to change tends to have more committed trainees than other types of projects. A good example of this from the case studies is the TTT project at Mathis, Atlantica, notated as project "H" in the various tables. The opposite extreme could be represented by the Vocational Education grant to the Edwardia SEA, project "F".

The causal directions of the relationships discussed above are not clear; do these projects attract those people who are committed or does it take "typical" trainees and make them committed. There is a self-selection phenomenon: innovative projects attract innovative trainees who are, almost by definition, committed to change and, since the goal of this type of project is change, to the goals of the projects. There are aspects of the projects that would support either view: training in change could be a cause of commitment, but change oriented projects could simply be attractive to change oriented trainees. The experimental design required to investigate this is quite beyond the scope of this study.

Summary of Findings

The nature of the project trainees appears to be associated with the project/LEA relationship, and with the overall success of the project in meeting its goals. The most obvious measure of trainee quality is their commitment to project goals, i.e., the implementation of innovation. The project characteristics which might be related to trainee commitment basically fall into two classes: those which can be minipulated, and those which cannot.

Among the non-manipulable project variables, the most interesting relationship is the high correlation between innovativeness and trainee commitment: trainees are committed to projects which are innovative, which are willing to take risks. Perhaps trainee commitment stems in part from staff commitment, for the role of the senior staff value system and the value of change are both highly correlated with trainee commitment.

As for manipulable project characteristics, the presence of change training proves to be strongly associated with commitment. Commitment is also related to the range of expertise in the project from the IHE's perspective but not from the LEA's. Projects which require a wide range of trainer expertise tend to have committed trainees. There is no apparent relationship between commitment and the range of expertise required by the client system. The service orientation of a project is negatively related to commitment, as are hierarchical decision making and institutionalization within either the IHE or the LEA.

In sum, projects which are attractive to trainees are innovative and controversial. They are not tied to IHEs or LEAs, unless LEA staff are also committed, and - as discussed in previous sections - they are democratic and staffed by trainers with a change orientation, which is manifested in the curriculum.

Project Relations with the LEA

This section will deal with project characteristics that may be related to the nature of the relationship that exists between the project and the LEA that it serves. There is an important difference here, however. The IHEs are seen by NCIES as service providers; the LEAs are seen as service receivers who will change as a result of the services the project and the IHE (as agent for the project) provide. It is in this spirit that we will refer to Variable E as being related to the "relevance of the project to the LEA." This variable is the primary dependent variable we will be dealing with here, although we will also attempt to relate it to other dependent variables, such as innovativeness.

The aspect of the project with which the LEAs are most likely to have day-to-day contanct is the trainee population. We know that most NCIES projects are administratively located somewhere other than at the local level (at an IHE, SEA or intermediate district level). It seems likely that the trainees would shape the nature of the project/LEA relationship more than any other single force. To investigate this, we correlated the LEA variable (variable E) with scale 16, the congruence of perceptions about educational change between the trainees and the LEA teachers with whom they come into contact in their practicum. This correlation was .62, indicating that projects whose trainees perceptions are similar to those of the LEA teachers tend to have better relationships with the LEAs. This is especially important in view of the fact that many NCIES projects have as participants these very people, while others are committed to bringing new actors into the educational profession.

However, we observe that the correlation between LEA relevance and the committment of the trainees is only -.15. This is somewhat contradictory to the previous finding, since we would expect that committed trainees are not very much like the LEA teachers. But this is not the case, as this correlation is -.05. There are two possible explanations for such results: there exist many trainees who are similar to LEA teachers who are committed to projects as well as those who are not committed, or that there is some

other variable whose effects have caused these low correlations. If we compute the partial correlation between trainee committment and LEA relevance, controlling for the committment of the LEA staff, we find the simple correlation of -.15 increases to -.69! That is, if we hold the supportive context provided by the LEA staff constant, there emerges a strong negative relationship between the committment of trainees and the relevance of the project to the LEA. This indicates that LEA staff, sometimes called boundary persons, who are supportive of a project, can help provide the sanction of the LEA that might otherwise be lacking and perhaps facilitate innovation.

The notion that the trainees are important in influencing the LEA's perceptions is reinforced when we study the effect of project staff characteristics. The correlations between the LEA variable and the change training orientation of the project (variable B), the project director's value of change (variable C), and the role of the senior staff value systems (scale 31), are -.13, .20 and -.05 respectively. If we combine the first two in a multiple regression equation, the multiple correlation does not increase at all over the highest simple correlation (R = 4.0).

Organizational properties of the project fare little better. The behavioral orientation of the project (Scale 36) and its relevance to the LEA correlate only .36. This is not quite significant, but indicates a trend toward behaviorally oriented projects being more relevant to the LEAs. Also, the service orientation of the staff (and, hence, the project) is correlated .48 with LEA relevance. This indicates that service oriented projects are more relevant to the LEA. Since such projects are dedicated to meeting the staffing needs of local districts, we can see how this relationship might come to exist. The risk variable correlates -.33 with the LEA variable, indicating that more venturesome projects tend not to be relevant to the LEAs, although this correlation is not quite large enough to be statistically significant.

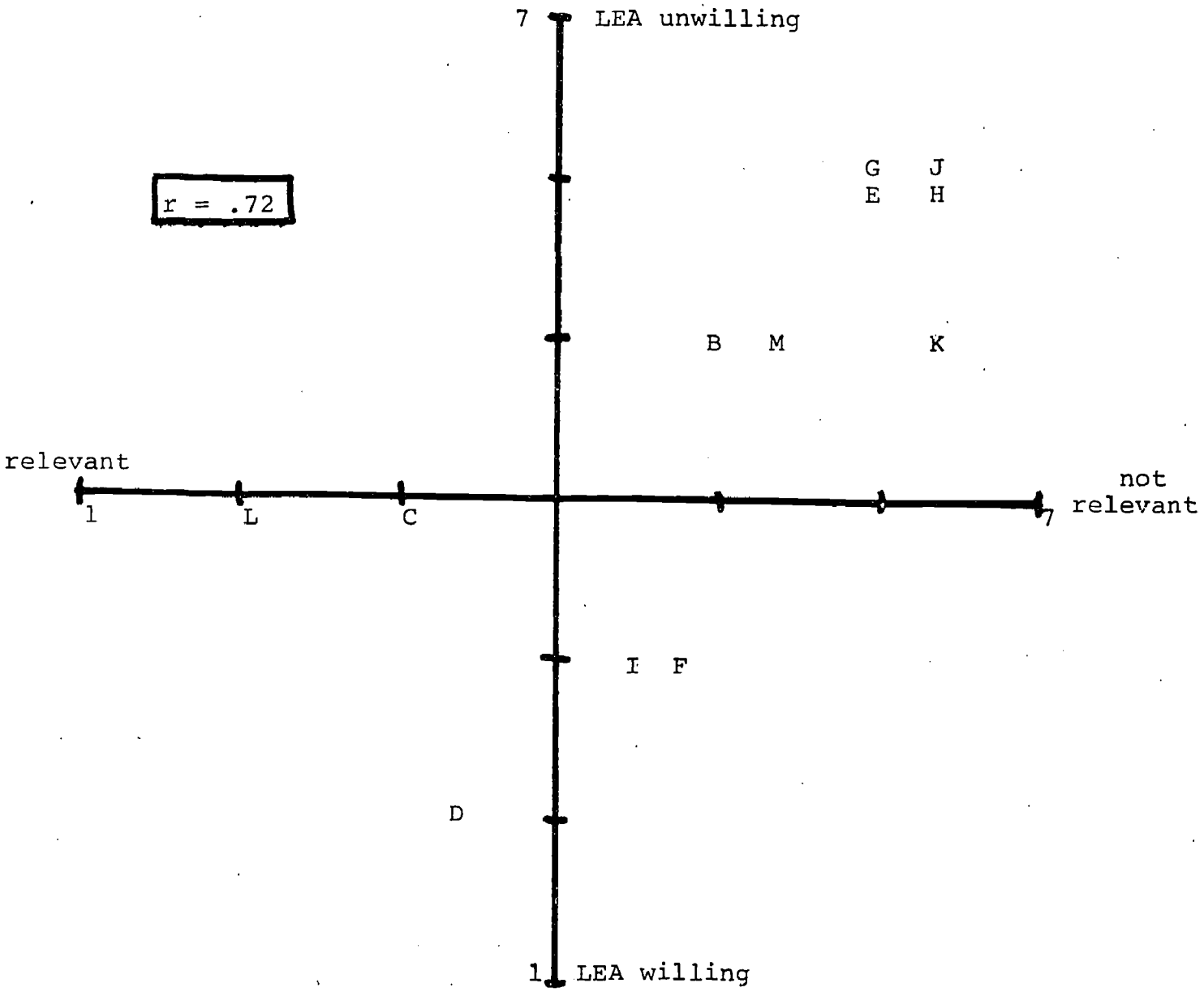
This last relationship of LEA relevance with the riskiness of the project suggests that similar findings may be had if we look at the relationship of the project and the LEA if the project is innovative, as measured

by variable F. The correlation between these two variables is only -.22. Some projects that are innovative may be relevant to the IHE, others may not. This implies that a third factor is functioning that would explain why some innovative projects receive LEA support and others do not. If we control for the commitment of the LEA staff to the project, the correlation is increased to -.48. But if we control for the LEA's willingness to change (scale 34), we find the partial correlation virtually identical to the simple correlation (-.20 vs. -.22). Again, these results suggest that the LEA staff and their commitment to the goals of the project are important factors in explaining how a project receives LEA support, and somewhat more important than the LEA's willingness to change in this regard.

There is, however, a direct relationship between the relevance of the project and the willingness of the LEA to change. The correlation here is .72. Table 12 indicates that the relationship is even stronger than the correlation suggests, because there are three projects which are totally irrelevant to the needs of LEAs, although their LEAs vary in willingness to change.

TABLE 12

PROJECT RELEVANCE TO LEA (Variable E) vs.
LEA WILLINGNESS TO CHANGE (Scale 34)



Project A received a "not appropriate" rating on Scale 34

Summary of Findings

What project characteristics affect the quality of relationships with LEAs? We might suppose that the trainees are important, for they are in day-to-day contact with LEA staff. This proves to be the case as far as congruence of perceptions about educational change is concerned. Projects whose trainees' perceptions are similar to those of LEA teachers tend to have better relationships with LEAs. Trainee commitment, interestingly, correlates negatively with relevance to the LEA if the commitment of LEA staff is held constant. This suggests the key role of LEA staff in fostering project relevance to LEA concerns.

Project staff characteristics - the director's value of change, the role of the senior staff value system, the project's change training orientation - tend to be less important than trainee characteristics. However, the service orientation of senior staff does correlate significantly with relevance to the LEA. Service oriented projects, not surprisingly, are more relevant. Apparently neither the riskiness nor the innovativeness of a project are associated with relevance. In contrast, there is a direct relationship between relevance and the willingness of the LEA to change.

Thus, relevance is much more closely tied to LEA attitudes and characteristics of project trainees than to the characteristics of the project and its staff. The main implication of these findings for the model we have been constructing would seem to be this. The internal and institutional forces shaping a project towards innovation and change in the IHE and in the LEA can be determined, if imperfectly. But the impact of the project on the LEA seems to be less a matter of what project actors intend than of the attitudes and behaviors of LEA staff.

APPENDIX A

INTERCORELATION MATRIX, ALL SCALES AND VARIABLES

V-44

APPENDIX A

INTERCORELATION MATRIX, ALL SCALES AND VARIABLES

	VAR001	VAR002	VAR003	VAR004	VAR005	VAR006	VAR007	VAR008	VAR009	VAR010
VAR001	1.00000	.39235	-.54735	-.47102	-.31650	-.21998	.31935	-.29338	.16936	.34229
VAR002	.39235	1.00000	-.17621	-.13764	-.61722	-.74813	-.19195	-.54706	.44616	.18191
VAR003	-.54735	-.17621	1.00000	.78572	.06599	.26502	-.55693	-.17129	-.05903	-.54901
VAR004	-.47102	-.13764	.78572	1.00000	.05708	.08502	-.63506	-.10205	-.13821	-.54950
VAR005	-.31650	-.61722	.06599	.05708	1.00000	.79978	.15644	.62474	-.14887	-.25812
VAR006	-.21998	-.74813	.26502	.08502	.79978	1.00000	.18515	.49775	-.28388	-.49109
VAR007	.31935	-.19195	-.55693	-.63506	.15644	.18515	1.00000	.56817	-.14987	.31987
VAR008	-.29338	-.54706	-.17129	-.10205	.62474	.49775	.56817	1.00000	.02997	-.10268
VAR009	.16986	.44616	-.05903	-.13821	-.14887	-.28388	-.14987	.02997	1.00000	.11861
VAR010	.34229	.18191	-.54901	-.54950	-.25812	-.49109	.31987	-.10268	.11861	1.00000
VAR011	.32807	.26014	-.21897	-.18036	.11025	-.20624	.18993	.22447	.72234	.18824
VAR012	.28950	.08065	-.54329	-.73472	.02349	-.19886	.65514	.28398	.09991	.71613
VAR013	.09835	.24842	0.00000	.28888	-.20432	-.18344	-.42873	-.51847	-.06415	-.30596
VAR014	-.03103	-.22967	.48379	.64062	.23537	.42502	-.34641	-.09355	-.24631	-.80365
VAR015	.10938	.25243	-.33228	-.52641	-.17985	-.26495	.23810	.11699	.35962	.04543
VAR016	.19721	.83677	-.00762	-.09696	-.42025	-.48070	-.05078	-.23471	.47158	-.24642
VAR017	0.00000	.53944	.12350	.17181	-.07216	-.14265	-.49772	-.52437	.18864	-.33897
VAR018	-.17812	-.45312	.44471	.21406	.56155	.74755	-.07101	.02441	-.24440	-.57656
VAR019	-.03792	.24429	.02319	-.27895	-.42890	-.40366	.08573	-.24596	.01296	.01503
VAR020	-.29370	.76642	.24425	0.00000	-.49082	-.61582	-.33845	-.49538	.41948	.11442
VAR021	-.25794	.04064	.55236	.54093	.22245	.10048	-.47532	-.20170	.06401	.02984
VAR022	-.30746	-.29674	.44224	.42129	.70771	.59027	-.28563	.13120	-.17172	-.23965
VAR023	-.40957	-.40097	.55114	.43085	.32963	.56419	.07884	.60391	-.00949	-.44218
VAR024	-.35432	.09502	.34937	.06557	.26573	.15041	.03369	.26951	.68693	.04255
VAR025	.43536	.50535	-.40545	-.21369	-.32074	-.51131	.31464	-.13125	.34021	.25379
VAR026	-.19395	.00239	-.12941	-.40477	.02266	.00233	-.05267	.03361	.19353	-.04777
VAR027	-.47566	-.18847	.39673	.15197	.31087	.34342	-.09065	.45113	.36116	-.45626
VAR028	-.24875	-.08622	-.06914	-.13457	.58128	.38406	-.04147	.31730	.19406	-.27044
VAR029	.15934	.53358	.02658	-.04434	-.49243	-.59632	-.36894	-.69043	.42359	.01445
VAR030	-.39935	-.25675	.47644	.44595	.63231	.46226	-.11022	.22276	-.09032	-.24435
VAR031	-.63732	-.36483	.50671	.47350	.54890	.29651	-.34009	.21205	.03185	-.03117
VAR032	-.67342	-.64459	.43334	.40360	.60884	.67676	.07611	.67535	-.05935	-.45527
VAR033	.25804	-.44915	-.64595	-.50546	.35351	.26520	.51719	.63233	.09391	.24321
VAR034	.41618	.40164	-.63947	-.43389	-.00962	-.32188	.35064	.00328	.40086	.23343
VAR035	.30865	.55448	-.30424	-.37521	-.30422	-.35296	.13635	-.14387	.36829	.54920
VAR036	.19570	.27507	.08203	-.23320	-.39801	-.18344	-.12417	-.30304	.49182	-.25072
VAR037	.22831	-.27537	-.30534	-.59070	.42187	.52862	.18640	.09534	.19088	.09194
SERVICE	.04891	.51704	.31033	.28750	-.50572	-.50478	-.78483	-.90404	.22013	-.03479
CTRAIN	-.75624	-.43187	.52469	.42549	.46057	.37347	-.08449	.56212	.15393	-.23034
SVALUE	.36135	.26125	-.43370	-.50003	-.59336	-.40884	.23619	-.12984	.18543	.08054
PHE	-.42631	-.28753	.56234	.80701	.17963	.35557	-.53822	-.05010	-.21876	-.87550
LCA	.45219	.49212	-.27967	-.22340	-.10809	-.37709	.12744	-.02878	.76192	.20914
INNOV	-.42881	-.70471	.16257	.05227	.91701	.88266	.16808	.67282	-.05399	-.32959

V-45

	VAR001	VAR002	VAR003	VAR004	VAR005	VAR006	VAR007	VAR008	VAR009	VAR010
AGREE1	.04553	.44646	.07594	.23929	-.13892	-.17257	-.50429	-.56221	.07937	-.33044
AGREE2	-.12786	-.39428	.50595	.42987	.46555	.67159	-.20390	-.02725	-.27372	-.73833
AGREE3	-.17618	-.18336	.47207	.45401	.38109	.47674	-.40386	-.21124	-.15417	-.78041
RISK	-.41179	-.63129	.23117	.17874	.84734	.91861	.22184	.78529	-.24928	-.37929
ATTRACT	-.39486	-.69210	.37293	.45543	.81180	.84595	-.04426	.53486	-.19591	-.53849
SUB1	-.33728	-.75700	.19315	.01796	.87176	.90529	.35137	.80622	-.12855	-.35020
SUB2	-.24689	-.10233	.39016	.68901	.10345	.25252	-.49587	-.05912	-.13953	-.83291
SUB3	-.25633	-.59334	.33757	.32118	.73049	.61690	-.00964	.33613	-.15430	-.06358
TEACHER	-.09364	.90338	.15414	-.04728	-.52215	-.63241	-.24349	-.43493	.50056	-.04622

	VAR011	VAR012	VAR013	VAR014	VAR015	VAR016	VAR017	VAR018	VAR019	VAR020
VAR001	.32807	.28950	.09835	-.03103	.00938	.19721	0.00000	-.17812	-.08792	-.29370
VAR002	.26014	.08065	.24842	-.22967	.20243	.83677	.53944	-.45312	.24429	.78442
VAR003	-.21897	-.54329	0.00000	.48379	-.33928	-.00762	.12360	.44471	.02319	.24455
VAR004	-.18036	-.73472	.25888	.64082	-.52641	-.09695	.17181	.21406	-.27355	0.00000
VAR005	.11025	.02349	-.20432	.29537	-.17985	-.42026	-.07216	.56155	-.42890	-.49092
VAR006	-.20524	-.19886	-.18344	.42502	-.25495	-.48070	-.14265	.74755	-.40366	-.61592
VAR007	.18993	.65514	-.42873	-.34641	.23810	-.05078	-.49772	-.07101	.08573	-.33843
VAR008	.22447	.28398	-.51867	-.09355	.11699	-.23471	-.52437	.02441	-.24595	-.49598
VAR009	.72234	.09991	-.06415	-.24431	.36862	.47168	.18864	-.24440	.01296	.41948
VAR010	.18824	.71613	-.30596	-.80365	.04543	-.24442	-.38897	-.57656	.01503	.11462
VAR011	1.00000	.38138	-.14253	0.00000	.47784	.50217	-.05988	-.12949	.16220	.13567
VAR012	.38138	1.00000	-.68918	-.70604	.43319	.08020	-.49720	-.42052	.34201	.03330
VAR013	-.14253	-.68918	1.00000	.54286	-.13394	.05847	.71750	.32797	-.10434	.18781
VAR014	0.00000	-.70604	.54286	1.00000	-.39367	.06809	.37410	.65594	-.24939	-.33109
VAR015	.47784	.43319	-.13394	-.39367	1.00000	.66397	-.00832	-.29439	.80629	.44036
VAR016	.50217	.08020	.05847	.06809	.66397	1.00000	.39223	-.21246	.62350	.54856
VAR017	-.05988	-.49720	.71750	.37410	-.00832	.39223	1.00000	.31575	.00936	.53427
VAR018	-.12949	-.42052	.32797	.65594	-.29439	-.21246	.31575	1.00000	-.19157	-.17554
VAR019	.16220	.34201	-.10434	-.24939	.80629	.62560	.00936	-.19157	1.00000	.59761
VAR020	.13547	.03330	.18781	-.33109	.44036	.54856	.53427	-.17554	.59761	1.00000
VAR021	-.11061	-.29582	-.00697	.12157	-.72968	-.27518	.15755	.17443	-.55485	.11467
VAR022	-.20199	-.28052	0.00000	.33634	-.71455	-.47989	.26509	.52749	-.68855	-.18981
VAR023	.03515	-.11728	-.48495	.25449	-.19499	-.05241	-.32829	.31480	-.17684	-.20434
VAR024	.63209	.23323	-.48666	-.10612	.05850	.26585	-.13629	.12817	-.05583	.24719
VAR025	.67191	.23106	.23548	.02988	.28918	.60967	.07937	-.23581	.20984	.19574
VAR026	.08448	.28794	-.34745	-.37796	.63611	.45664	.03537	-.27116	.48782	.25227
VAR027	.21795	-.00565	-.52970	.04518	.26945	.42603	-.13302	.03541	.11849	.06345
VAR028	.16115	.04595	-.21408	.03099	.09358	.17703	.25200	.08893	-.21061	-.10018
VAR029	.22700	-.13248	.51692	-.01855	.28572	.68421	.78467	-.05324	.38579	.66968
VAR030	.07598	-.20862	-.05532	.40237	-.43545	-.16408	.03126	.54339	-.36826	-.12098
VAR031	.07864	-.12477	-.22674	.13394	-.35262	-.32983	-.15697	.25625	-.32026	-.04291

	VAR011	VAR012	VAR013	VAR014	VAR015	VAR016	VAR017	VAR018	VAR019	VAR020
VAR002	-.17377	-.33167	-.19496	.23648	-.31116	-.39955	-.21321	.41593	-.43321	-.30733
VAR003	.31973	.42362	-.30283	-.22197	.31184	-.31915	-.49979	-.15925	-.13646	-.62512
VAR004	.59078	.21931	.44184	-.06013	.33139	.34196	.39773	.01656	.05782	.22743
VAR005	-.60665	.33992	-.27171	-.77129	-.23497	.11693	.02047	-.57288	-.32453	.32224
VAR006	.30091	.61947	.57143	0.00000	.73497	.69190	.32835	.04042	.70234	.54046
VAR007	.01295	.18207	-.66547	-.15424	.17064	-.32510	.09181	.39882	-.19201	-.21228
SERVICE	-.08100	-.43693	.58465	.17081	-.02943	.76266	.71583	0.00000	.22359	.64737
ORIGIN	.04784	-.13458	-.40551	.02973	-.12693	-.12133	-.26956	.13862	-.18690	.01017
[illegible]	.14566	.24861	.03841	-.27039	.74570	.46651	-.05305	-.38086	.65445	.20276
THE	-.23542	-.87069	.49377	.89211	-.24865	-.00499	.33540	.54712	-.11153	-.12985
LEA	.34050	.27511	.07918	.00391	.44677	.61678	.16631	-.13739	.16573	.27936
[illegible]	-.02974	-.10263	-.21706	.21538	-.19613	-.50043	-.11613	.60209	-.46158	-.45871
AFFIL1	-.10280	-.62453	.90378	.48720	-.06393	.27067	.94659	.34953	-.04490	.41867
AFFIL2	-.67942	-.59156	.45780	.57635	-.39578	-.10574	.37273	.93840	-.25336	-.26395
AFFIL3	-.28422	-.71374	.68937	.85171	-.25657	.02490	.64027	.85823	-.15357	-.03553
RISK	-.13786	-.12556	-.30866	.30840	-.29726	-.57710	-.32786	.56051	-.46412	-.66244
ATTRACT	-.58354	-.45254	.01546	.62948	-.41775	-.43554	-.07872	.66602	-.56077	-.61070
SUB[illegible]	-.51693	-.31224	-.34567	.22690	-.13741	-.46203	-.30006	.53542	-.39418	-.61293
SUB[illegible]	-.25158	-.92522	.64174	.80019	-.30294	.03794	.46925	.38100	-.31878	-.18938
SUBS	.10150	-.87611	-.21556	.33832	-.47653	-.49169	-.31003	.50236	-.[illegible]	-.47921
TEACHER	.33161	.06193	.14969	-.15077	.50758	.64089	.53663	-.21518	.69030	.91292

	VAR021	VAR022	VAR023	VAR024	VAR025	VAR026	VAR027	VAR028	VAR029	VAR030
VAR001	-.28744	-.33746	-.60967	-.08422	.48535	-.19395	-.47566	-.24870	.15934	-.39996
VAR002	[illegible]	[illegible]	-.43507	.09602	.50595	.02798	-.10847	-.03622	.33338	-.25675
VAR003	[illegible]	[illegible]	.58114	.34937	-.40565	-.12941	.39673	-.06914	.02658	.47614
VAR004	[illegible]	.42129	.43095	.06557	-.21959	-.40477	.15197	-.13457	-.04434	.44595
VAR005	.22144	.70771	.52963	.26573	-.32074	.52266	.31097	.58128	-.49243	.63231
VAR006	.10043	.59227	.56419	.15041	-.51131	.00233	.34342	.38406	-.39632	.46225
VAR007	-.47502	-.29353	.07884	.03369	.31464	-.05257	-.09065	-.04147	[illegible]	-.11022
VAR008	[illegible]	.18129	.60391	.26951	-.13125	.02351	.45119	.31730	[illegible]	.22275
VAR009	[illegible]	-.12172	-.40549	.62403	.34021	.19553	.35116	.19106	.42338	-.09952
VAR010	[illegible]	-.24905	-.44218	.04255	.24379	-.04777	-.45626	-.27644	.01444	-.24435
VAR011	-.11061	-.20199	.03515	.53200	.67191	.08448	.21795	.16115	.22700	.07599
VAR012	-.09532	-.29752	-.11724	.23323	.23105	.28794	-.00565	.04595	-.13248	-.20852
VAR013	-.00597	0.00000	-.43495	-.48665	.23548	-.34745	-.52970	-.21408	.51692	-.05532
VAR014	.12157	.33634	.25449	-.10612	.02968	-.37796	.04518	.03099	-.01855	.40237
VAR015	-.72968	-.71855	-.19499	.05850	.22918	.63611	.26945	.09358	.28372	-.43545
VAR016	-.27518	-.47989	-.05241	.26585	.60967	.45534	.42603	.17703	.68421	-.13458
VAR017	.15755	.26509	-.32829	-.13529	.07937	.03537	-.13302	.25200	.78467	.03125
VAR018	.17443	.52749	.31480	.12817	-.23581	-.27116	.03241	.06893	-.35324	.54339
VAR019	-.55485	-.68655	-.17684	-.06503	.20984	.48782	.11849	-.21061	.38579	-.36826

	VAR021	VAR022	VAR023	VAR024	VAR025	VAR026	VAR027	VAR028	VAR029	VAR030
VAR020	.11467	-.18951	-.20434	.24713	.19674	.26227	.06345	-.10018	.86968	-.12086
VAR021	1.00000	.69536	.36833	.44703	-.17236	-.33541	.05169	.13123	.07680	.72472
VAR022	.69536	1.00000	.33950	.30652	-.50370	-.24286	.11345	.37075	-.17103	.66420
VAR023	.35833	.38950	1.00000	.57613	-.24329	.05267	.73876	.37521	-.46004	.66744
VAR024	.44753	.30652	.57613	1.00000	.15772	.08241	.57503	.29742	.08709	.47308
VAR025	-.17236	-.50370	-.24329	.15772	1.00000	-.17109	-.26575	-.13233	.43376	-.01080
VAR026	-.33541	-.24286	.05267	.08241	-.17109	1.00000	.60859	.64116	.10954	-.32180
VAR027	.05169	.11345	.73876	.57503	-.26575	.60859	1.00000	.63416	-.17911	.20734
VAR028	.13123	.37075	.37521	.29742	-.13233	.64116	.63416	1.00000	-.00867	.23365
VAR029	.07680	-.17103	-.46004	.08709	.43374	.10954	-.17911	-.00867	1.00000	-.14798
VAR030	.72472	.66420	.66744	.47308	-.01080	-.32180	.20734	.28365	-.14788	1.00000
VAR031	.75072	.58867	.64590	.49674	-.21532	-.07009	.34578	.30649	-.23829	.83111
VAR032	.29828	.46470	.84095	.31453	-.39448	-.09425	.52316	.31630	-.52750	.56252
VAR033	-.57417	-.18647	-.10216	-.09499	-.02252	.17915	.03052	.14394	-.53173	-.33719
VAR034	-.57298	-.26822	-.45748	.04095	.79922	-.12826	-.33158	.04030	.48435	-.07719
VAR035	.32814	-.02510	-.18849	.27259	.13083	-.01340	-.09199	.07825	.24653	-.02377
VAR036	-.49027	-.41051	-.24131	.16222	.07436	.50709	.30196	.01784	.51692	-.53472
VAR037	-.15217	.24558	-.18640	.08776	-.33159	.32333	.02858	.36108	-.10759	-.11592
SERVICE	.30795	.00000	-.45299	-.09103	.08697	.04928	-.21455	-.11593	.81162	-.10136
DTRAIN	.43298	.34573	.93832	.55464	-.26696	.14112	.72295	.40213	-.34782	.60257
DVALUE	[illegible]	-.84343	-.50579	-.37682	.23491	.41487	-.03460	-.23990	.21502	-.88356
IHE	.11323	.29966	.35155	-.15741	-.25957	-.18636	.21467	.01080	-.04393	.29512
LEA	-.05553	-.37416	-.15232	.54590	.83284	.02514	.05779	.09073	.47607	.01862
INNOV	.21275	.65085	.62866	.30109	-.44950	.05583	.42296	.34713	-.53720	.55091
AGREE1	.29358	.16288	-.42621	-.32112	.15778	-.13910	-.32634	.55574	.72143	-.00640
AGREE2	.15695	.49557	.31738	.02482	-.13679	-.34606	.04136	.07094	-.04247	.53095
AGREES	.13603	.42135	.12455	-.09289	-.09012	-.24140	-.01603	.10446	.22393	.40312
RISK	.17119	.58789	.71249	.19532	-.49000	-.06539	.40859	.39754	-.78044	.54755
ATTRACT	.31773	.55710	.68623	.17498	-.33583	-.20736	.34493	.37300	-.55923	.60492
SUB1	.53028	.56950	.57221	.24555	-.41512	.03006	.45283	.45605	-.69381	.43950
SUB2	.59352	.23245	.16993	-.29078	-.14683	-.23449	.09331	.08750	.03252	.17797
SUB3	.80523	.62748	.61125	.41188	-.13501	-.27438	.16112	.22851	-.50099	.85748
TEACHER	-.06009	-.35669	-.15762	.28904	.42445	.39218	.24876	.02158	[illegible]	-.15813

	VAR031	VAR032	VAR033	VAR034	VAR035	VAR036	VAR037	SERVICE	DTRAIN	OVALUE
VAR001	-.40752	-.67542	.25834	.41610	.30933	.19870	.22331	.04801	-.73024	.36133
VAR002	-.38483	-.64459	-.44915	.40164	.55443	.37507	-.27537	.61704	-.43187	.25153
VAR003	.50571	.43334	-.64585	-.53347	-.30494	.08203	-.30534	.31633	.32469	-.43370
VAR004	.47750	.40360	-.50646	-.43539	-.37521	-.23820	-.59070	.22760	.42649	[illegible]
VAR005	.54997	.60884	.36351	-.00852	-.30422	-.39801	.42187	-.50573	[illegible]	[illegible]
VAR006	[illegible]	.67676	.26520	-.32189	-.36295	-.18544	.52652	[illegible]	.37347	[illegible]
VAR007	[illegible]	.07611	.51719	.35634	.13635	-.12417	.18640	[illegible]	[illegible]	[illegible]
VAR008	[illegible]	.57535	.63253	.03323	-.14387	-.33304	.09694	[illegible]	[illegible]	[illegible]
VAR009	[illegible]	-.05935	.69391	.40086	.36529	.49182	.19658	.22513	[illegible]	.16543
VAR010	-.63117	-.45527	.24321	.22343	.54979	-.25072	.09194	-.08479	-.28599	.02056
VAR011	.67966	-.17377	.31903	.59078	-.00665	.30091	.01295	-.08100	.04704	.14546
VAR012	-.12477	-.33167	.43862	.21931	.33952	.01947	.18207	-.43693	-.13480	[illegible]
VAR013	-.22574	-.19496	-.30293	.44184	-.27171	.07143	-.06647	[illegible]	[illegible]	[illegible]
VAR014	.13394	.23648	-.22157	-.05913	-.77129	0.00000	.16424	.17031	.02973	-.27039
VAR015	-.35262	-.31115	.31134	.36139	-.23497	.73497	.17064	-.03948	-.12693	.74570
VAR016	-.32983	-.31055	-.31915	.34196	.11693	.69190	-.32510	.36266	-.12133	.46651
VAR017	-.15597	-.21321	-.49473	.39773	.02547	.32865	.09181	.71583	-.26955	-.05305
VAR018	.25525	.41393	-.15925	.01655	-.57288	.04042	.39882	0.00000	.13862	-.33085
VAR019	-.32026	-.43321	-.13646	.05752	-.32463	.70334	-.19201	.22359	-.19696	.65416
VAR020	-.04291	-.33733	-.62512	.22763	.32224	.54046	-.21228	.64737	.01017	.20276
VAR021	.75772	.29825	-.57417	-.27290	.32814	-.49027	-.16217	.30795	.43298	-.83079
VAR022	.68857	.46477	-.18647	-.28522	-.02510	-.41051	.24559	.06080	.34573	-.86348
VAR023	[illegible]	.26395	-.10216	-.45762	-.18549	-.24131	-.18640	-.45258	.90832	-.50659
VAR024	.49574	.31453	-.03499	.04096	.27259	.16222	.08776	-.09103	.58464	-.32682
VAR025	-.21532	-.39448	-.02252	.79222	.13083	.07436	-.33159	.08697	-.26696	.23491
VAR026	-.37069	-.40425	.17915	-.12826	-.01340	.50709	.32333	.04928	.14112	.41497
VAR027	.34378	.59316	.63952	-.38163	-.09199	.30196	.02858	-.21455	.72295	-.03440
VAR028	[illegible]	.31630	.14324	.04050	.07825	.01784	.36108	-.11593	.40213	-.23930
VAR029	[illegible]	-.52795	-.50175	.43455	.24653	.51692	-.10769	.81162	-.34732	.21352
VAR030	[illegible]	.54752	-.33712	-.07719	-.08977	-.53472	-.11582	-.10125	.60267	[illegible]
VAR031	1.00000	.54873	-.22594	-.27154	-.07493	-.51895	-.12281	-.03590	.75515	-.91461
VAR032	.54873	1.00000	.05984	-.31430	-.22248	-.35847	.02926	-.50655	.85057	-.89779
VAR033	-.59884	.05984	1.00000	.24023	-.15939	-.05287	.45625	-.69162	-.10113	.32435
VAR034	-.57164	-.31430	.24023	1.00000	.11490	.10520	.18781	.04768	-.37802	.21563
VAR035	-.57693	-.22248	-.15939	.11490	1.00000	-.12454	.08850	.09533	-.10208	-.09861
VAR036	-.51985	-.35847	-.05287	.10520	-.12454	1.00000	.22157	.36999	-.27034	.71335
VAR037	-.12251	.02925	.45625	.18781	.08850	.22157	1.00000	-.15683	.18863	.06751
SERVICE	-.53996	-.50655	-.69162	.04768	.09533	.36999	-.15633	1.00000	-.32604	.03645
DTRAIN	.75515	.85657	-.10113	-.37802	-.10208	-.27034	-.18858	-.32604	1.00000	-.50019
OVALUE	-.91441	-.56778	.32435	.21563	-.09861	.71335	.06751	.03645	-.50019	1.00000
IHE	.20209	.43350	-.31693	-.31674	-.66993	.04654	-.27599	.22647	.27978	-.21544
LEA	-.05242	-.32796	.13969	.72469	.14414	.35631	-.02142	.15038	-.12695	.20450
INNOV	.51009	.80848	.33818	-.11305	-.23604	-.31248	.50644	-.54707	.59879	-.52716
AGREE1	-.20141	-.22125	-.44724	.45292	-.11320	.23513	.02564	.71020	-.35334	-.01495
AGREE2	.22483	.37337	-.20324	-.02032	-.71365	.02579	.17930	.07820	.10207	-.35691
AGREE3	.14258	.24901	-.30292	.13578	-.70189	.15994	.15242	.32800	.00527	-.26054

	VAR031	VAR032	VAR033	VAR034	VAR035	VAR036	VAR037	SERVICE	OTRAIN	OVALUE
RISK	.48801	.83807	.35762	-.31069	-.33802	-.41666	.33362	-.67149	.60501	-.51866
ATTRACT	.55612	.81219	.14658	-.22338	-.43944	-.42517	.15851	-.41106	.57790	-.62468
SUB1	.36588	.80327	.46184	-.17136	-.29016	-.29063	.42594	-.72661	.53900	-.38881
SUB2	.62591	.35480	-.24387	-.12122	-.45772	-.02621	-.23566	.24148	.12604	-.16435
SUB3	.32635	.55471	.03956	-.18556	-.19754	-.61185	.10162	-.32206	.53989	-.51220
TEACHER	-.18857	-.39347	-.56029	.31346	.26528	.68670	-.29573	.59523	-.05259	.38853

	IHE	LEA	INNOV	AGREE1	AGREE2	AGREE3	RISK	ATTRACT	SUB1	SUB2
VAR001	-.42531	.45219	-.42881	.04553	-.12786	-.17618	-.41179	-.39486	-.33728	-.24699
VAR002	-.29753	.49212	-.70471	.44646	-.39428	-.18336	-.83129	-.69210	-.75700	-.10233
VAR003	.66234	-.27967	.16257	.07594	.50525	.47207	.23117	.37293	.10315	.39016
VAR004	.80761	-.22340	.06227	.22929	.42987	.45461	.17874	.45543	.01796	.48901
VAR005	.17953	-.10809	.91701	-.13892	.49355	.35109	.86734	.81180	.87176	.10545
VAR006	.35557	-.33789	.28266	-.17257	.67159	.47674	.91861	.84395	.90529	.23282
VAR007	-.53522	.12744	.16808	-.50429	-.20390	-.40386	.22184	-.04426	.35137	-.49347
VAR008	-.05010	-.02878	.67282	-.56221	-.02725	-.21124	.72629	.53466	.80522	-.05912
VAR009	-.21876	.76192	-.05399	.07937	-.27372	-.15417	-.24928	-.19591	-.12858	-.13963
VAR010	-.27550	.20914	-.32929	-.38064	-.73582	-.76041	-.37929	-.58648	-.36020	-.83291
VAR011	-.23842	.94650	-.02974	-.10560	-.07942	-.08492	-.13786	-.08354	-.01893	-.28159
VAR012	-.27069	.27511	-.10263	-.62453	-.59156	-.71374	-.12556	-.45254	-.01224	-.92552
VAR013	.39377	.07918	-.21706	.90378	.45780	.68537	-.30856	.01566	-.34567	.64174
VAR014	.28011	.06391	.21538	.49720	.87635	.86171	.30840	.62948	.22590	.80019
VAR015	-.24865	.44677	-.19613	-.06983	-.39578	-.25657	-.29726	-.41775	-.13741	-.30894
VAR016	-.60499	.51678	-.50043	.27067	-.10574	.02690	-.57710	-.43554	-.45203	.03794
VAR017	.33540	.16531	-.11613	.94659	.37275	.64027	-.32786	-.07872	-.30006	.44925
VAR018	.64712	-.13739	.60209	.34953	.93940	.85823	.56051	.66602	.53542	.31100
VAR019	-.11155	.16573	-.46158	-.04490	-.25386	-.15337	-.46412	-.55077	-.33413	-.31678
VAR020	-.17996	.27986	-.45871	.41867	-.26595	-.03653	-.66264	-.61070	-.61295	-.18918
VAR021	.13923	-.09083	.21275	.09358	.16696	.13803	.17119	.31773	.03028	.09352
VAR022	.29536	-.32416	.65085	.16288	.49057	.42185	.58789	.63710	.50950	.23245
VAR023	.35185	-.15232	.62866	-.42621	.31738	.12455	.71549	.66623	.67221	.16993
VAR024	-.13741	.54590	.30109	-.32112	.02492	-.09289	.19132	.17498	.24655	-.23078
VAR025	-.25967	.83284	-.44950	.15778	-.13679	-.09012	-.49000	-.33588	-.41512	-.14083
VAR026	-.18836	.02514	.05593	-.13910	-.34606	-.24140	-.04830	-.20736	.03006	-.23449
VAR027	.21467	.05779	.42296	-.32694	.04136	-.01603	.40859	.34493	.45283	.09331
VAR028	.01085	.09073	.54713	.05574	.07094	.10446	.39754	.37300	.45605	.08750
VAR029	-.24093	.47607	-.53720	.72143	-.04247	.22383	-.75044	-.55923	-.69391	.03282
VAR030	.29582	.01862	.56001	-.00640	.53095	.40312	.54785	.68682	.45950	.17937
VAR031	.20209	-.05242	.51009	-.20141	.22483	.14258	.48801	.55612	.36568	.02591
VAR032	.43359	-.32798	.80848	-.22125	.37367	.24901	.83807	.81219	.80327	.35480
VAR033	-.31683	.13909	.33818	-.44724	-.20324	-.30292	.35762	.14658	.46184	-.24387
VAR034	-.31674	.72469	-.11306	.45292	-.02032	.13578	-.31069	-.22338	-.17136	-.12122

	IHE	LEA	INNOV	AGREE1	AGREE2	AGREE3	RISK	ATTRACT	SUB1	SUB2
VAR035	-.63993	.14414	-.23684	-.11320	-.71866	-.70189	-.33802	-.43964	-.29816	-.45779
VAR036	.04654	.35631	-.31248	.23513	.02579	.15994	-.41666	-.42817	-.29863	-.02331
VAR037	-.57589	-.02142	.50644	.02564	.17930	.15242	.33362	.15851	.42594	-.23556
SERVICE	.32647	.15138	-.54767	.71020	.07820	.32800	-.67149	-.41105	-.73541	.26148
STRAIN	.57978	-.17595	.59379	-.35334	.10207	.00527	.60591	.57790	.55996	.12555
D[illegible]LE	-.21964	.20463	-.52716	-.01462	-.36681	-.26054	-.51884	-.62538	-.33375	-.16435
IHE	1.00000	-.25453	.22700	.43466	.75753	.61177	.31220	.53514	.20982	.90478
LEA	-.25453	1.00000	-.21762	.13715	-.08228	-.01272	-.35795	-.23449	-.23631	-.20276
INNOV	.22700	-.21762	1.00000	-.17193	.48280	.34258	.94126	.85123	.95224	.16251
AGREE1	.43466	.13715	-.17193	1.00000	.44608	.72029	-.34434	-.04121	-.34438	.58540
AGREE2	.75753	-.08228	.48280	.44608	1.00000	.94214	.49885	.71317	.44553	.60945
AGREE3	.61177	-.01272	.34258	.72029	.94214	1.00000	.22694	.56907	.24344	.71300
RISK	.31220	-.35795	.94126	-.34434	.49885	.22694	1.00000	.90438	.97233	.21353
ATTRACT	.53514	-.23449	.85123	-.04121	.71317	.56907	.90438	1.00000	.83950	.53572
SUB1	.20982	-.23631	.95224	-.34438	.44553	.24344	.97233	.83950	1.00000	.14037
SUB2	.90478	-.20276	.16251	.58540	.60945	.71300	.21353	.53572	.14037	1.00000
SUB3	.19154	-.04761	.66627	-.29029	.47567	.27250	.71269	.73972	.60472	.03797
TEACHER	-.03635	.48837	-.54050	.40257	-.22344	-.01049	-.70968	-.60708	-.62145	-.10396

	SUB3	TEACHER
VAR001	-.25603	-.08364
VAR002	-.69334	.90338
VAR003	.33757	.15414
VAR004	[illegible]	[illegible]
VAR005	.73649	-.52215
VAR006	.61593	-.63741
VAR007	-.60964	-.24249
VAR008	.33613	-.43493
VAR009	-.15470	.50056
VAR010	-.65556	-.24622
VAR011	.10158	.33131
VAR012	-.37611	.06133
VAR013	-.21556	.14969
VAR014	.33982	-.18077
VAR015	-.47653	.60758
VAR016	-.49169	.84089
VAR017	-.31003	.53653
VAR018	.50236	-.21519
VAR019	-.33746	.69050
VAR020	-.47921	.91222
VAR021	.60528	-.95009
VAR022	.62748	-.35569

	SUB3	TEACHER
VAR023	.61125	-.15762
VAR024	.41188	.28954
VAR025	-.13691	.42445
VAR026	-.27438	.39218
VAR027	.16112	.24876
VAR028	.22851	.02158
VAR029	-.50059	.89572
VAR030	.85745	-.15813
VAR031	.62635	-.18857
VAR032	.55471	-.39347
VAR033	.03956	-.56029
VAR034	-.18556	.31346
VAR035	-.19754	.26528
VAR036	-.41185	.68570
VAR037	.10182	-.29573
SERVICE	-.32206	.59523
OTRAIN	.53989	-.05259
OVALUE	-.31226	.35853
THE	.19154	-.08635
LEA	-.04761	.43037
INNOV	.66627	-.54050
AGREE1	-.29029	.40257
AGREE2	.47547	-.22344
AGREE3	.57256	-.01049
RISK	.71269	-.70969
ATTRACT	.75972	-.60708
SUB1	.60472	-.62145
SUB2	.63797	-.10396
SUB3	1.00000	-.54948
TEACHER	-.54948	1.00000

Chapter VI

Summary of Findings and Policy Recommendations

The findings from the case studies are summarized here, specifically with regard to areas out of which policy recommendations can come. There are results reported in Chapter V which will not be included here either because they are too specific and unique to a given project or program, or because they do not appear at this time to be policy relevant. It must be kept clear that, because of the limitations inherent in this study, both the findings and the recommendations are subject to common sense appraisal as well as further empirical validation. The findings do, however, have credibility beyond that which may be derived from typical survey research. The difficulties with questionnaire-based studies have been documented in the research literature. The unique contribution of this study is the use of case study materials gathered by trained, objective observers which in turn could be coded and translated into quantitative measures via rating scales so that these narrative reports could, in fact, yield analyzable information.

The findings will be reported in summary form in respect to: relationships of project, and LEA with IHE; project organization; curriculum development; trainee characteristics; and relationships of LEA to project and IHE. Finally, policy recommendations which relate directly to these findings will be outlined.

A. Relationship of IHE to Project: Summary of Findings

Projects which have a broad base in the IHE, which call upon the resources of a number of departments, disciplines, and staff at different levels in the organizational structure, and which have multiple linkages with other projects, appear to acquire more institutional support. The IHE administration sees as more substantial projects which involve the inputs of factlty from several departments, community agencies, and other federal projects on the campus. The breadth of organizational resources used does not refer here to the range of activies taking place within the project, the range of curriculum or the range of trainee characteristics.

Projects which were traditional in the sense of being degree or certification oriented tended to be heirarchically organized, with a strong centralized decision-making procedure. These projects tended to call upon a variety of consultants and outside faculty who made relatively short term substantive contributions to the projects via individual courses or workshops. This kind of relationship required the major decision-making to remain in the hands of the project directors. This, in turn was related to the relatively strong degree of disatisfaction with which trainees preceived the projects.

Service oriented projects were valued by IHE. These programs perform the sort of professional education function that Schools of Education have traditionally performed. IHE in this case resembled an educational supermarket from which the project director could select units of training for participants. On the other hand, non-traditional programs tended to be less broad in the utilization of IHE resources and were less apt to have centralized decision-making, therefore more apt to include inputs from other actors in the program in the determination of operations, planning and philosophy.

Projects which used a variety of resources of the IHE, and had hierarchical decision-making structures also tended not to be innovative. The emphasis in these instances was on a strictly traditional service function. The exception to this generalization seems to be where the IHE itself was oriented towards innovation, so that the evolution of service programs was flavored by a general institutional support for the non-traditional.

The key factor determining a project's degree of innovativeness appears to be the extent to which the project sees itself primarily as a service program. In these cases, the projects tended to become part of the ongoing structure of the IHE. Where innovative projects became a regular component of the IHE structure, it appeared that a heavy emphasis on servicing the LEA was present, although in this case the service represented a means of entre, or a quid pro quo with the LEA. Service as a reward appeared to be associated with innovative projects whereas projects which aimed primarily at servicing the LEA were very traditional. Innovative programs become a part of regular IHE operations only when the IHE already supports innovation.

When projects were an extension of the regular IHE degree or certification program, or part of such programs, they tended not to be innovative. When practica

were located in a LEA and the trainees were already employed by (or prospective employees of) the LEA, the projects became increasingly more conventional over time. The institutional constraints of the IHE may have served to reduce the amount of innovation in a project closely related to established, traditional programs, or it may have been that the LEAs were unwilling to provide practicum positions (or employment) for persons trained in unconventional ways outside of recognized degree or credential programs, thereby acting against innovation. Degree requirements resided primarily within the prerogative of the IHE, and the evidence appeared to be that such requirements were not modified by projects. Certification requirements were ultimately administered by state departments of education, and again there was little evidence of modifications in such requirements as the result of any program. Degree and certification requirements in themselves tended to be traditional and therefore imposed constraints upon innovative programs.

Projects with innovative features tended to be in separate institutes or special administrative units outside the regular administrative structure of the IHE. In these instances, there appeared to be a tendency to hire non-tenured staff, to have less adequate facilities, and to be regarded as academically inferior. The survival of innovative projects under such conditions is problematical.

Policy Recommendations: Project /IHE Relations

A new, NCIES-supported teacher training (or inservice education) project which perceives its primary mission as the supply of such training (service orientation) is much more easily assimilated into the existing organizational structure of the IHE than a project which seeks to cause change and train educational "shock troops". Further, this service orientation is more easily supported by conservative institutions (such as IHEs and and LEAs), because it is seen as an extension of traditional educational practice. This suggests that projects which are explicitly change oriented should <u>not</u> be expected to achieve a secure position within the IHE. Grant award procedures could favor proposals which indicate the project will be located somewhere outside the traditional organization of the IHE. This could be accomplished by assigning the grant (and the administration of the

project) to an Institute within the IHE or to some other agency: LEA, SEA, or intermediate district. Other parts of this report will deal with the problems associated with some of these alternatives.

It seems clear that the most viable strategy for producing a power base for a project within the IHE is to have it establish and maintain a variety of linkages with several kinds of change oriented projects. Guidelines which require funding several projects simultaneously at any one institution will likely reach the critical value of seeding to expect that change-orientation will take root thereby.

B. Relation of Projects to the LEA: Summary of Findings

Despite the stated purpose of a number of the projects to produce some change in the LEA, there was little evidence that this happened. This finding has been documented throughout the educational literature. The data here supported what has previously been reported anecdotally or in single instances: LEA's are very difficult to change.

Projects which tended to be significant service adjuncts to the operation of the LEA had trainees whose educational outlook was similar to that of other teachers in that system. In fact, in a number of instances the trainees were themselves these teachers, recruited directly from the LEA into the programs rather than being drawn from a national pool. Where these trainees were prospective teachers, they were recruited from among local residents or already enrolled education students who tended to share basically the same value system as teachers already in the LEA. Such projects were apt to be tied closely to servicing the immediate and specific needs of the local systems. These projects tended to be strongly traditional in their training programs and to have few innovative approaches or practices. The services desired may have had a high priority for the LEA, but little potential for change in the organizational structure of the LEA. These projects did, however, provide personnel trained to provide new or better services desired by the LEA.

The relationship of trainee commitment to the goals of the project was a complex one. Where LEA staff supported the project goals, trainees reflected this view. Even if the service to be delivered by project was one

of high priority to the LEA, staff may not have been committed to the stated goals of the project, and trainees may have been expected to show low committment to likewise project goals. These trainees tended to view the project as a means of professional upgrading, as a means of accumulating credit for salary increase and/or tenure, reflecting a view shared by LEA staff.

Where projects were innovative and change oriented, trainees who tended to have a high commitment to the goals of the project were individuals who were not enrolled in the program primarily for personal professional rewards, and these were projects which were generally tangential to the organization or operation of the LEA. The more dedicated a project was to the specific needs of LEA, the more likely it was to recruit and attract traditional, system-mobile persons rather than change oriented persons.

The role of the project director in the IHE and his staff appeared to have little influence in this situtation in the LEA. Even in situations where the project director had a strong commitment to change, there was no indication that such a viewpoint influenced the LEA personnel, nor was the project likely to become closely associated LEAs. Trainees with high interest in change were attracted to projects whose director enunciates such an orientation, but such projects were almost always peripheral to the functioning of the LEA. Staff commitment to the goals of the projects, with a change orientation and interest in innovative practices, also had little effect on the LEA's orientation.

In other words, there was little in the structure or operation of the projects themselves which suggested means by which innovative projects may be able to influence their LEA's. The organizational models of the present projects did not seem to possess the resources or utilize the strategies necessary to produce the kind of leverage necessary to influence an LEA to change its operations.

Local school systems had more interest in and propensity for seriously being involved with projects which were hierarchically organized; where decision-making rested with a senior staff or director, rather than projects in which decision-making was shared across several levels of staff

and trainees. Projects in which decision-making was not shared tended to be projects with a traditional orientation and a focus on service delivery. Tightly organized, centrally managed projects appeared to be able to establish relationships with LEAs that were non-threatening because they were consistent with the ongoing activities of the LEA and were service oriented. LEAs appeared to resist involvement with innovative projects, where decision-making was a shared responsibility, and where the service orientation was subordinate to a change orientation.

The practica organized by projects exemplified this dichotomy: we found close support of the projects' practica by the LEA in those instances in which such training components were consistent with the current operational procedures of the LEA. Practica which were orientated toward systemic change, phasing new kinds of personnel into the system (particularly minority group personnel), or incorporating new kinds of activities in which the trainees were skilled (such as change agents) tended to be isolated, with little potential for enduring impact on the LEA.

When high level personnel from the LEA served as liaison between the project and the LEA, there was evidence of close working relationship in the search for innovative practices. Where such boundary personnel from the LEA were actively involved in the project, where they were interested in the substantive approach of the project, and where they were initiators of some of the notions of the project, we found a greater tendency for the project to have effective entry into the system. There were, however, few instances in which administrators systematically explored the implications of the innovations inherent in the projects. We saw few attempts to make administrators sensitive to the barriers faced by the trained teachers to carrying out their new notions, or to make the administrators interested in giving support to teachers who had an interest in but very little power to effect the changes about which they learned in the course of their training. This was understandable, of course, since little attention was paid by any of the projects to the tactics and strategy of change, and certainly very little attempt was apparent to involve the LEA administrators in these considerations.

The findings made clear that in any training project the relationships among the LEA's and IHE's and their respective staffs was complex. The focus of the project, the kinds of trainees recruited, local legislation affecting the LEA and special organizational features of the IHE were variables which influence the potential for innovation and change to be an inherent and enduring aspect of a program.

Policy Recommendations: Project/LEA Relations

There are clear cut implications for policy decisions in the previous findings. Unless projects plan their strategy for change carefully, unless that planning includes the systematic involvement of administrative staff of the LEA, unless a system for monitoring and supporting teachers who are placed in the LEA by the project with the explicit charge of applying the notions and skills acquired during their training, and unless the LEA administrators are at a level of power sufficient for the task of supporting the teachers (or other personnel) in their quest for change; then the project is likely to remain on the periphery of the LEA and its change orientation is likely to be diluted into traditional delivery systems. In other words, an advocate for the project, trained in the ways of change and committed to the substantive changes propogated by the project, must be present in the administration of LEA as a necessary (although not sufficient) condition for the sympathetic incorporation of the goals of the project into the system of the LEA. Projects may actively seek to involve already sympathetic LEA boundary persons, or they may provide activities directed at "conversion" of those persons in boundary positions who could be made sympathetic. However, there must be coordination of activities directed at securing the cooperation of the LEA administration with the activities directed at training classroom teachers to implement innovations. Both groups must be involved if the project is to take root at the LEA. And it must take root if the LEA is to be permanently changed.

C. Training Practicum and Curriculum: Summary of Findings

The most important finding related to curriculum was that the presence of change training in the curriculum of a project was very strongly associated with the innovativeness of the project and with the committment of the project trainees to the goals of the project. Such change training generally included study of the literature of organizational dynamics or practicum experiences with direct and explicit orientations toward practice in the methods of causing change in local schools. This was contrasted with the type of training offered in other projects: traditional professional education courses at varying levels of specialization. This implied another aspect of the project that provided change training: the roles for which the trainees were being prepared were new roles (implicitly that of "change agent") and not those of "early childhood specialist" or "special education teacher".

Few strong relationships between practicum characteristics and other characteristics were discovered. This highlights a key problem: the practicum tended to evolve more haphazardly and under more constraints than the IHE training component, for the role of LEA staff was a curious one. They were not indispensable - although certainly helpful - in the development of an innovative approach to the practicum, but they are quite capable of obstructing or modifying a practicum which they perceived as not relevant to their interests or incongruent with their perceptions about educational change. However, it was observed that the project tended to be more traditional when it was supported by the LEA. This most likely is a result of the fact that LEAs supported those projects (and their practica) that provided them with needed services, such as special training for their teachers, or needed personnel, such as the supply of paraprofessionals with subsidized salaries provided by the COP practicum. Consistent with this was the finding that projects with behavioral criteria in their training component had practica that were likely to be supported by the LEA, regardless of the service orientation of the project. Yet we found that the degree to which the practicum was an important part of the IHE's operations was unrelated to the innovativeness of the project.

Concerning curriculum, we found that non-behavioral approaches to training of participants were more likely to foster innovation. Change oriented faculty appeared to address the broad goals of change through flexible, humanistic curricula. Traditional and/or service oriented faculty (and projects) tended to ally themselves with requests for narrowly defined services from the local schools, which were more easily addressed through behavioral objectives and performance criteria than the broader, more diffuse goals of change. In practice, however, there was very little strict adherence to behaviorism. A case may be made that behavioral curricula had a constraining effect on the willingness of both the staff and trainees to innovate, to try alternatives. Certainly behavioristic curricula were well suited to maintaining the status quo in schools.

Humanistic curricula, on the other hand, appeared to have interesting advantages. Broad goals offered a means to achieve rapport between project personnel and LEA personnel, for the more specific the objectives the less likely they were to agree. A policy of flexibility allowed project staff and trainees to pursue promising strategies, and to abandon alternatives which seemed ineffective or which were strongly opposed by LEA personnel. This approach characterized several of the more successful projects we observed. It should be noted that all projects changed their operations over time in response to pressures from the systems with which they came in contact. This trend was generally toward the more conventional and away from the innovative. However, awareness of this evolution could help projects adjust to it. Projects based on strict, predetermined objectives cannot do this. We therefore conclude that federal programmers might do well to discourage rigidly defined training programs, and to encourage the development of non-behavioral curricula.

Policy Recommendations: Curriculum and Practicum

How can a curriculum based on change be encouraged? What elements in the process are more important or more manipulable: the people who teach it or the structural conditions in and around the project? The critical

factor appears to be people - specifically, the senior staff of the project, whose theoretical values tend to establish an emphasis on applied change throughout the project. The obvious policy implication of this finding is the importance of staffing. Our investigations suggest the following model of the project director who will be successful in establishing a change oriented training program. He or she must be professionally and personally credible to both the IHE and the LEA, a strong leader and administrator, skilled at steadily furthering project objectives while avoiding conflict, and possess more than a fair measure of charisma. Senior staff are less constrained and less conspicuous, although apparently just as vital to the development of an innovative program. Project guidelines, therefore,might emphasize the need for assembling a project staff that is not only qualified, but demonstrably experienced as trainers and committed to change.

Such staff characteristics have also been shown to be associated with projects that provide transportable skills, training (in the methods of change) that may be used in any school system and are not specific to the LEAs which are associated with the project and which cooperate in the practicum. It should be noted that projects with explicitly service orientations may or may not provide transportable skills. Many do supply general professional education, but some are explicitly providing training services designed to meet specific, immediate needs of particular school districts or credential requirements.

As for IHE relations, we found that some degree of institutionalization seems to be a necessary, if not sufficient condition for the growth of a change oriented training program. An innovative project is not a separate laboratory. It cannot develop or survive in isolation, denied IHE resources, opportunities, or support. We found that approaches to institutionalization ranged from campaigns for general university recognition, to the active involvement of faculty from other disciplines. Interdisciplinarity seems to be one sound strategy, since it serves the dual function of enriching the curriculum and creating linkages within IHE. Linkages alone, however, cannot be relied upon to direct a project towards innovative goals and

a project towards innovative goals and practices. We found that the extent of a project's connections with other special projects has little bearing on the character of the training curriculum, although it does have a bearing on the extent to which the project is institutionalized within the IHE. The values and skills of senior staff are much more influential in the area of curriculum development.

D. Trainee Characteristics: Summary of Findings

The personal and professional characteristics of the trainees in NCIES projects were critical to the production of system change. These were the individuals upon whom the final burden will fall; they must go out into school systems and make change happen. The character and quality of the training they receive, as well as their personal attributes, will be perhaps the most important factors in determining if the project (through its trainees) can succeed in being a catalyst for change. With this orientation, it seems reasonable to investigate trainee characteristics which are associated with innovation as well as project characteristics which seem to be associated with the project's having innovative trainees.

The most striking result of our study was that trainees who were committed to project goals were found in projects considered to be innovative. The direction of causality here was not clear and could not be established from our data. Nothing in the case studies however, told us whether change oriented trainees were, in fact, able to act as catalysts for change on the job. Such data were clearly needed before any definitive statements could be made about the project's design for change.

One highly desirable project feature that was both attractive to committed trainees and useful in the furthering of change in its own right was the inclusion of change training in the project's curriculum. Simply offering traditional professional development course work was not enough. Committed trainees wanted and needed skills directed at making it possible for them to translate their commitment into action to have some real effect on schools. This included instruction in such areas as organizational theory and group dynamics as well as a practicum experience directly related to the "how to" of instituting educational innovations. Project senior staff

characteristics were also quite important. The commitment and values of the senior staff were as strongly related to trainee commitment as were any other innovation variables.

Policy Recommendations: Trainees

The obvious implication of this for policy makers is that both actively recruiting and selecting committed trainees and mandating that projects be innovative will increase the probability of a desirable outcome. Of course, it is easier to say that a project be innovative (or attractive to committed trainees) than it is to get projects to operate in that way. Some listing of project attributes associated with the presence of committed trainees is called for.

Projects that seek committed trainees should not be intrinsic to the IHE, unless the IHE itself is innovative. If the project is seen as being a part of the "establishment" (i.e. school of education), it is likely that the trainees will distrust it. Again, this is a part of the system that committed trainees hope to change. In a similar manner, projects that are close to the LEA are also not likely to have many committed trainees. In this case, there is also the possibility that the trainees were selected by the LEA, so they may have been picked with some criteria other than commitment in mind. Of course, if either the IHE or LEA (and their respective staffs) are already themselves receptive to change and this is recognized by the trainees, then projects may have close relationships with either agency and still have trainees who are committed. The importance of "boundary personnel" in the organization in which change is intended has often been cited in the literature. This finding is supportive of this notion.

We may construct a model of a project that will be maximally attractive to a committed trainee and/or will provide an environment most conducive to creating such commitment. Such a project will be innovative, risk taking and controversial. It will not be intrinsic to the IHE or LEA (unless they are already established innovators) and will be dependent on external (generally Federal) funds for its existence. It will have a diffuse decision making structure and will be staffed by IHE insiders (rather than

outside consultants) with deep commitments to change. This commitment will be manifested in the curriculum of the project, which will offer training in change agentry, and such training will be transportable.

In general, we can say that trainee commitment is a necessary condition for a project to succeed in diffusing organizational change within schools. If we are to produce as many change agents as possible, it is desirable that the project actively recruit committed trainees, be innovative and risky in its operations and organization, supply training in change for its participants and be relatively independent both financially and organizationally of the institutions that it seeks to change (IHE and LEA).

There is an independent contribution to trainee commitment made by project staff; their commitment and dedication is imparted to the trainees. Conversely, staff who are not committed to the goals of the project and/or to change will also impart their values to the trainees. It has been demonstrated elsewhere that staff values and the presence of change training are closely associated, so it is logical to recommend that, when establishing such a training program, appropriate staff members be located to operate it.

Such a program is contradictory to the rationale of the "service" projects, who meet the personnel training and development needs of local schools. As a result, few committed trainees are found in service-oriented projects. While such manpower projects are definitely necessary, they are not the way to cause educational institutions to change. Teachers along traditional lines improve schools, or might improve schools, but will not change them.

Projects which offer a wide range of expertise for their participants' training tend to have many trainees committed to the goals of the project. This is likely a result of innovation requiring many inputs and the fact that effective training in the methodology of change also requires input from a multiplicity of sources. Projects with hierarchical or centralized organizations tend not to have many committed trainees. Evidently, such an organization is found distasteful by

trainees who are committed to educational innovation. This is, after all, the very sort of organizational characteristic that they seek to change in the local schools.

E. Organization Characteristics of Projects: Summary of Findings

There was, very likely, no property of an organization more extensively examined in the literature than its decision making processes. The magnitude of participation in making decisions at each of the levels of status in the organization was consistently found to relate to the commitment of the members of the organization to its goals and procedures. This was an obvious extension of the notion that those who participated in the decision were those who had to support and further it. Further, shared and hierarchial modes of group organization were observed to have strikingly different impacts on the morale of group members, the clarity of the communication process, and the level of skill demonstrated by the members. Shared procedures tended to be associated with greater morale, better communication, and higher level of skill. On the other hand, it was also true that such shared procedures were slower and sometimes more frustrating to the need for incisive action. It was unlikely that the slowness of this process and its tendency to inaction was a great price to pay for the advantages of strong commitment which one seeked in a training program for professional adults. This is particularly true where the trainee was asked to acquire a new role with new skills, and to enter into new professional relationships involving new professional standards. Acquiring confidence in a new role required a great deal of personal commitment to that role and a good deal of preparation for dealing with the unknowns to be faced in new professional situations.

It was not surprising to find, as we did in the present study that projects which were organized along hierarchial lines and involved little sharing of the decision making process were able to secure very little commitment from the trainees. The trainees in these projects

did not exhibit a strong sense of attachment to the goals or procedures of the project. On the contrary, they tended to view the project as a means of picking up some personal credits for professional advancement and tended to see the project as a temporary vehicle for that purpose. This perception was understandable since these projects tended to be highly service oriented and not innovative. This, too, was not sursprising since it would be difficult indeed to ask the trainees to become committed to new roles without involving them in a careful examination of the processes and goals to which they would be expected to devote themselves. Projects which involved few persons in their decision making processes did not give issues of change visibility in their training program or practicum. The project directors in these projects tended not to be interested in ways of influencing any aspect of the system other than through supplying training resources specifically needed by the LEAs. Such an approach of necessity avoided the conflict potential of system change and allowed for a gearing of the training program to the specific needs of the LEAs. LEAs tended to find this approach compatible with their interests and found little difficulty in phasing such a training program into the ongoing activities of the local schools. At the same time, the high degree of specificity of project goals and procedures produced a self-contained project which had little need to become involved with other projects. Linkages with other projects were absent from these projects, which increased the LEA's ability to deal with them individually. The consequence of this relationship was that the LEA acquires leverage over the project, rather than the other way around, and the possibility of the project becoming a force for change in the school system was accordingly reduced There were no instances of a LEA interested in experimenting with new instructional forms making contact with a narrowly based project characterized by little shared decision making.

Under any conditions, broadening the base of decision making produced a project which had a greater intrinsic attractiveness to trainees who were themselves change oriented, and that must be a major goal of any project devoted to improving educational systems.

Policy Recommendations: Organizational Structure

It is not clear from the case study and rating scale data that a project would automatically become innovative if it were directed to organize itself to allow for sharing of decision-making. However, it is clear that if such organizational properties were required of a project, the possibility that a broader range of inputs from trainees and lower staff would generate a broader consensus for operational as well as goal oriented decisions is likely. Obviously, the best we can say for this approach is that a necessary but not sufficient condition for a change-oriented project is satisfied. However, if several of the other project properties suggested elsewhere in this report were also built into the project, we expect that there would be a significant increase in the probability that projects would acquire an influential status in the educational community. For example, we do not expect that the emphasis on behavioral criteria for successful performance is intrinsically related to service-oriented projects. Rather it seems more likely that projects which do not wish to get involved in innovative projects will tend to use a heavy emphasis on behavioral criteria as a means of focusing on a purely service approach. If this approach were embedded in a project interested in examining the way in which an LEA deals with an outside agent, and if the project were organized to maximize the participation of all staff and trainees in directing the course of the project, then it seems likely that performance criteria would be seen as a means of dealing with the LEA and of phasing the trainees into the school system. Trainees would likely become interested in the behavioral standards since those standards would be the strategy for approaching the LEA.

F. Summary Policy Recommendations

In reading the previous five sections, summaries of results in various areas of concern, it may have been noticed that there was some repetition. Findings expressed in one section were often echoed in

another. This is due to the fact that a change oriented training project is a complex entity requiring the coordination of various project aspects. This section will present in brief form the findings and recommendations presented in the previous sections. Detailed explanations of the justification for these recommendations may be found in the preceeding sections. Statistical evidence (based on the rating scales) will be found primarily in Chapter V. More substantive discussions will be found throughout Chapters V and VI.

In this summary of recommendations, we make the assumption that the primary goal of the project is educational change: change in the structure, functioning and goal orientation of the LEA, the IHE or both. Our recommendations, therefore, have as their basis a desire to maximize the possibility that project trainees will leave the confines of the training institution (either during their practicum or after graduation from the program in regular professional positions) and bring about institutional change in their schools or school systems. We have designated various aspects of project organization, operations or staffing as desirable or undesirable as a result of the relationship observed between that factor and either project innovativeness or trainee commitment. It goes without saying that projects should be innovative and that their trainees should be committed to the projects. The recommendations we make are directed at facilitating the acquisiton of these goals.

The project must have a strong positive orientation to change. Training in the theory and practice of organizational change must be included in the program. More conventional professional education courses, and their accompanying service orientation, are not incompatible with a change orientation and the professional credibility such expertise could provide for the trainee may be valuable. However, change rather than new or improved service must be the primary orientation of the project. Although provision of services to LEAs may be an effective strategy for change in some situations, the goal of the project must specify change as well as the new services, so that service related activities are perceived as intermediate steps leading to another goal, change.

The practicum experience should have a change focus. However, the training in change should not be bound to the specifics of the practicum setting. Rather, the training should be transportable. The roles for which the trainees are being prepared should be new roles rather than modifications of existing ones. The roles for which the trainees are being prepared should be new roles rather than modifications of existing ones. Strict adherence to behavioral objectives or performance criteria in the training of project participants should be avoided and more humanistic, flexible training procedures used in the project. Too great a reliance on behavioral objectives tends to draw the project's attentions away from the search for change and toward adjustment to more traditional models of teacher functioning. Finally, support and monitoring should be provided for the trainees, both during their practicum experience and after their graduation from the project. The resistance to change in the real world is often too great to leave project trainees unsupported in their professional roles.

The project should have an organizational structure that requires shared decision making: everyone involved in the project should have some input to the planning and decision making process. This includes not only all levels of project staff and trainees but also representatives of the IHE and LEA that are to be changed or which are involved in the project operations.

The project director and senior staff should be strongly committed to the goals of the project: educational innovation and change. If possible, they should be on the faculty of the IHE that supplies training, either as faculty members before the inception of the project or as new additions as a result of the project. Their commitment and dedication should be evident, especially to the trainees Although it is difficult to specify in project guidelines, a little charisma goes a long way.

One criteria for trainee selection should be their commitment to change, not simply their availability within a participating LEA. This suggests widespread, possibly nationwide, recruitment may be

advisable, especially if the participating LEA is not sympathetic to the project. However, if the LEA and its critical boundary personnel do support the project, then selection of trainees from within the LEA may be preferable, if these boundary personnel are themselves involved in the project and its operations. Trainees who are already part of the system may be more effective, since they are experienced with the operation of the system and as insiders are less threatening.

Projects should consider training middle level administrators (assistant superintendents, building principals, etc.). This may be either in place of training classroom teachers or in addition to it. However, it appears that both groups should be involved to some extent since the desires of one can easily be resisted by the other.

The project should not be deeply imbedded in the organizational structure of the IHE, except in those cases in which the IHE is already known to be innovative. However, some reasonable amount of linkage with other change-oriented projects is desirable. The involvement of this range of projects and faculty within the IHE would provide the power base necessary to permit the existence of an innovative project in the normally convervative institution that the IHE tends to be. The project should be financially independent of the IHE, at least in its early stages, to provide the flexibility required of an innovative project.

Finally, the project should be independent, both organizationally and financially, from the LEA, except in the case of a highly innovative LEA. Care should be taken to involve boundary personnel of the LEA in the project and to convince them of the value of its intentions.

G. Revised Mapping Sentence

In an earlier section of this report, we presented a faceted description of the possible configurations that may be assumed by a NCIES (or NCIES-like) educational personnel development project. This original "mapping sentence" and discussions of the procedures involved in reading such a mapping sentence and of the more general technique of facet analysis are contained in Chapter I, Volume I, pp. I-51 to I-59.

This earlier mapping sentence was developed before the data collection and analysis phase of the project. Consequently, it contains some facets that have not been found to be important to policy making and omits some that now seem relevant. Some of these omissions are facets that could not be investigated empirically due to the exigencies of the study design. For example, there are obviously no NCIES-supported projects that do not receive federal funds. A wider ranging research design is required to investigate such variables.

We may think of this revised mapping sentence as a general model from which broader discussions of recommended project structures and program guidelines may be based. The sentence suggests models of projects that have not yet been tried and the implications of which cannot be adequately predicted. For example, what would be the impact of a project with a strong change orientation supported by local funds? If our recommendations are to be truly useful to Office of Education planners (or to anyone else interested in organizational change), they cannot be artifically restricted by the scope of the study design. They must instead be responsive to the nature of the real world and to the forces which assist and resist innovation. This model, represented by the mapping sentence, may serve as a transition between discussions of findings and recommendations based rather strictly on the data (Chapters V and VI) and discussions of the more general, total issues (Chapter VII).

REVISED MAPPING SENTENCE

NCIES projects representing a {new / old} program structure;

with {strong ... weak} {change / service} orientations;

supported by {local / outside (federal)} funds;

that are {independent of / institutionalized in} the {IHE / LEA}, given the {positive ... negative}

attitudes toward the project of the institution's boundary personnel;

but have {no ... many} linkages within the institution;

which have senior staffs with {strong ... weak} commitments to the project;

and make decisions in a {very democratic ... very hierarchical} fashion;

which train {old / new} personnel for {old / new} positions;

with training methods that have {heavy ... no} emphasis on {change training / behavioral objectives}

and which provide {much ... no} support for participants {in their practicum / after they leave the program}

{great ... no} {temporary ... permanent} change in the educational {system / services} of the {IHE / LEA}.

Some further remarks about the preceeding mapping sentence are in order. First, it should be noted that there are two areas in which a project may have impact: it may change educational services or it may change educational systems. Further, such impact may take place within either the IHE or LEA. Any project may conceivably alter both aspect of both institutions. Note also that we have not considered a project's impact on any other institution, such as the SEA. An example of change in the services of an LEA would be the implementation of driver education, something new and presumably an improvement of the quality and quantity of the services provided by the LEA to its students, but hardly a change in the organizational structure of the school. Similarly, use of competency based teacher education in the NCIES project at an IHE improves the services of the IHE to its students, but may or may not cause any changes in the IHE system. Examples of systemic change include the introduction of open classrooms and team teaching in a LEA or inclusion of students on an IHE board of trustees. Such changes may also positively affect the services provided by the institution, but this is the ultimate goal of change: institutionalize new structures that will insure the continued improvement of services; make education better.

Second, many of the facets have been shown to be correlated. That is, values of certain facets are likely to appear in conjunction with particular values of another facet. For example, the presence of change training and commitment of the senior staff have been shown to correlated. Therefore, a project whose senior staff is known to be committed to the goals of the project is likely to also provide training in the methods of change. This implies that certain combinations of facets may be unlikely to occur, so there are fewer possible project configurations than it would appear from the structure of the mapping sentence.

It is possible to consider each of the possible combinations of facets and predict the impact of a project having such a configuration. However, there are far too many possible combinations for this to be done systematically. Further, many of these models are referred to in

the text of the report at various places, with predictions as to the likelihood of such a project being innovative. Many of these implicit hypotheses cannot be tested from the present data, suggesting that a catalog of such hypotheses may be the basis of some extensive research in organizational change.

In the final chapter of this volume, we shall combine, in the context of the project models, the empirical results of the present study with our knowledge of the research literature in organizational innovation and our collective experience and insight into education and educational systems. From this, some specific recommendations for project operating procedures, organization and training content will be presented, along with suggestions for program operating and grant award guidelines. We have intended these models to be "reality based", not strictly dependent on the data. We shall also raise some policy relevant issues that must be considered in making decisions but about which we are reluctant to make recommendations. Such considerations include matters for which there is no unambiguous data of for which value judgments are required. These points are raised because we believe that they should be considered in policy planning and decision making.

CHAPTER VII

Going Beyond the Data: Implications for Educational Innovation

This concluding chapter represents our efforts to present a comprehensive discussion of the issues that must be considered concerning the implementation in innovation in educational institutions, and to develop a set of recommendations for program and project guidelines and operating procedures that can serve to assist the planning and management of change. In order to present this comprehensive, complete discussion, it is necessary to go beyond the data, to combine our empirical findings (both quantitative and qualitative) from the present study with the literature of organizational change and the collected experience of the project staff and consultants. We must acknowledge that many of our recommendations are conjecture; there is not as yet a solid empirical research foundation on which these recommendations can be made. However, they represent our "best guess" as to the nature of the world, a creative interpretation of the trends apparent in our results. These recommendations must eventually face empirical test, either in careful experimentation or in actual field implementation. Such tests are necessary if we are to make the schools more effective and more humane places.

A. The purpose of federally funded projects

We have noted that NCIES projects place a great emphasis on "innovation" and "change", and this is commendable. Unfortunately, such an emphasis often causes programs to promise more than can reasonably be achieved by current strategies. The case studies and our review of the literature indicate that change is extremely difficult to secure in any educational system, be it the LEA or IHE. The process of innovation is made even more difficult when the financial support for change is erratic, on a year-by-year basis, and not sufficiently large to involve more than a handful of individuals as trainers, trainees or administrators at any one location. The limited success in effecting change that was had by the projects studied must not be taken as a condemnation of the projects; their task, as it was defined may well be impossible.

It is important that a distinction be made between change and improvement. Previously we have made a definitional distinction between change and innovation. On the basis of this distinction (see I-10 to I-15, Chapter I, Volume I), the case studies are almost all at the level of change rather than innovation. After completing the case studies and analysis, it is now clear that the literature, as well as in the on-site reports of the specific cases, refers as much to the need for improvement of school practices as it does to the need for systemic change. In some instances, any improvement will be seen as a drastic change and, in many cases, change is required before improvements can exist. There is still the possibility improvement without organizational change. More and better special education teachers can be trained, and this will improve services to some extent, but this improvement can occur without any systemic adjustment. Of course, the Special Education program within NCIES would maintain that use of special education teachers in their traditional setting (the resource room for special children) is not enough, that special children should be integrated into the regular classroom. This is the situation for which most Special Education trainees are prepared and it does require some change in the organizational structure of the LEA.

It is clear, however, that very few school systems or IHE's are interested in or able to commit personnel or resources to change (much less innovation). But improving what the schools provide a given community,

whether it be the local school's curriculum or the training and employment of Ph.D.'s able to staff child development centers or counseling programs, is an acceptable and desired goal. It is possible to obtain some consensus regarding weaknesses in current educational programs and to obtain fairly reliable commitments to rectifying these deficiencies. No one wants to graduate students who lack basic skills; no one approves of high drop-out rates or the lack of practical skill training. We are all, in fact, against evil. On this basis, there is great utility in devising programs and funding projects that do appear to have promise for better educational service. The service to be improved can be specified and the measure of attainment of goals can be described. For example, a school system may state as a fundamental goal that all students upon graduation (unless clinically diagnosed as untrainable) will be able to read, write and perform arithmetic computation at a level deemed necessary for survival as an adult. Given this goal, what systemic changes are required for the implementation of a program designed to attain it? Then, when we discuss change, it is more clear what is being considered.

If there is a genuine intent to promote school change, then it is possible that Federal money could be more wisely allotted to persons or systems or programs which already have good "track resords". That is, funds could support projects in which one can already observe a good program in action, with personnel and resources already fairly well mobilized towards more effective education, of whatever sort. Rather than underwrite program operations, this additional outside funding can then be used to (1) support research as to why the program was particularly effective, for whom and for how long; (2) evaluate the possibility of disseminating what has been learned from this research, the "key" elements of the effective program; and (3) support whatever training or other activities are necessary to make the program and its key features transportable to other situations. In other words, rather than trying to promote some new and untried educational activity, Federal funds could be used more efficiently to locate, support and disseminate an existing, operational program that has demonstrated that it has something to offer that is better than the conventional solutions to recurring educational problems. It is clear that where there are good programs there must be

personnel able to introduce and maintain effective programs, resources available to support such programs, and system and/or communtiy attitudes which permit such a program to succeed and to last. Federal funds could then be used for research to identify the crucial aspects responsible for the success of this indigenous program. Once these elements have been isolated, additional effort will be required to determine what modifications will be necessary to make them them transportable to other systems that desire the same improvements.

If an outstanding program depends on the charm and charisma (or personal connections) of a very energetic leader, then it is relatively useless to try to export this program to other places. However, even in this instance, funds may be helpful in analyzing the program so as to shift to a process whereby the founding father is made dispensable. The tendency of institutions and organizations to revert to the status quo ante should be recognized. The instructive history of the Eight Year Study shows how minimal innovative changes are when the energizing elements of leadership and supportive money disappear. Taking a lesson from the many incidents of innovations that lasted only as long as a given individual or source of funds lasted, projects should be designed to have the seeds of their own renewal and continuation. It is useless to point out to the grantee that after two, three, or five years the entire burden for the support of the program will be shifted from Federal to local sources. Typically when this eventual shift occurs, the program just collapses, despite assurances by the grant applicants that there is great local support for the program. It would be instructive to return to the site of a major Federal investment a few years after funding has been terminated to see what has been supported by local monies. Our guess is that there will be little left that resembles the original program, having been absorbed by existing other activities, if there is indeed anything left at all.

Such decay will occur both at the training site (typically the IHE) and at the "target" of the change efforts (typically the LEA). If permanent change has been established at the LEA, so there is no further need for the training services of the project, the project should be terminated rather than be permitted to become an institution soon to be in need of external change itself. This is rarely the case. More generally, local schools receive

some newly trained personnel and, for a time, practice the change. Over time, the system will likely act to stifle the change and resist the activities of these externally trained change agents. A technique that could deal with the problem of institutional decay is the continued monitoring and support of project trainees, both during their practicum experience and after their graduation from the program. It is after graduation when their change skills will be most severly tested and they will require the most support. Our case studies have shown us that almost everyone involved in the projects is receptive to the idea of additional field technical assistance for the graduate trainee. The reason that such services have not been provided is simply that there are not funds available. A useful application of a part of a grant award would be the funding of support activities for project trainees or graduates in the schools.

Another possible direction for funding is the support of multiple innovative activities at the same site, be it the same IHE or LEA. A system that has been receptive to one change, as indicated by internal support and initiative in developing and implementing it, could be assisted by assigning several additional grants to the same system. If, for example, an IHE has an innovative and effective Teacher Corps project, it is more likely that an innovative TTT would be successful there than at some other institution without such a history. Further, there is some evidence contained in the case studies that multiple innovations can support each other and create a power base for innovation in an institution. Clearly, once a precedent has been set and a pattern of successful innovation established at an institution, each successive innovation attempt there is more likely to succeed.

Finally, there is one political and ethical issue raised by the approach advocated above, the support of existing innovation. Granted that this funding strategy will result in a much higher success rate than is presently achieved. Is it defensable to support with Federal money only those institutions that are already innovative? Has not, to some extent, the Federal grant become a technique for supporting IHEs and LEAs? Should a "compensatory" grant award procedure be followed: provide the most support for those institutions that are most resistant to change, for the others can take care of themselves. Do the students in uninnovative schools deserve the at least temporary improvement of services that results from the infusion

of Federal grant money? What would the political consequences of such a funding strategy be; would Congress approve? These questions cannot be answered adequately from existing data; many are, quite simply, value judgements. However, it is wise to consider the possible difficulties that this "innovative" funding approach would encounter.

B. Project Personnel

A great deal of Federally supported effort has been devoted to the training of teachers and, more recently, other types of classroom personnel (such as paraprofessionals). Few programs have been devoted exclusively to the training of administrative personnel, building principals or school system administrators, with the specific intent of helping them administer innovative and effective school programs. There is a widespread belief that, through the training of teachers (and teachers alone), we can influence education. It is obvious that the teacher is the single most important individual to the education of the student. But there is little evidence to show that any specific training process is more enduring than any other. A teacher may appear to be more effective as the result of some specific training, but then be placed in a school setting very different from the one for which he was trained, and the training effect is then completely washed out. The system administrators may actively resist permitting the teacher to exercise his skills. Few efforts have been directed at placing groups of teachers in a particular school in order to deliver better education. Most often, single teachers are trained and placed in a school alone. But even if such groups could be placed in a single school, the mobility of teachers would make this approach unrealistic (unless incentives were provided to keep the teams together).

The individual teacher is a frail reed upon which to pin expectations of change. A new teacher is obviously the most vulnerable person in the system. Particularly a new teacher without previous experience. Few systems ever have a majority of new teachers entering, so that the impact of any new teacher is diluted by the overwhelming numbers of untrained, older, experienced teachers. Although both school critics and school administrators continually blame teachers for being unable to teach effectively, there is abundant evidence that the system into which the new teacher is placed makes it difficult for a new teacher to remain deviant from the accepted local practices for long and survive. In a participant-observer study of a small town elementary school, it was concluded that:

> "Innovations in teaching come and go; some of these touch Adams [the school being studied]. The teachers do try new things, although restraints on innovation are the same now as ten years ago. More innovations will come as outsiders move into the school and older teachers leave. With professionalization or greater administrative control, the teacher at Adams may experience some relief from tensions and frustrations. However, such changes may bring new problems...I believe that the factors that produce anxiety, anger, and a sense of helplessness in teachers are so basic that they remain constant despite superficial changes." [1]

The failure of outside funding to produce massive and enduring educational change was admitted in a report on the Ford Foundation's educational efforts. In a newspaper summary of the report,[2] it is stated that the "lighthouse" school concept has failed. Change, when it occurred, was in individual schools or classes, which had no impact on other schools in a system. Although money was spent in publicizing innovative programs, "changes in nearby school systems did not seem to occur, nor was there a willingness on the part of the projects' neighbors to acknowledge its light-giving nature," the report stated. The key to success of any project, however, was found to be the director, but when this person left the project suffered. Universities were found to be completely incapable of being a force for educational improvement in the elementary or secondary schools. The Ford report stated that the most effective moment to give a grant for school improvement was after a crisis, rather than during the height of controversy. Innovations such as new technology, flexible scheduling disappeared or were redirected when the grant money stopped. Innovations which produced more freedom on the part of students to question existing social conditions were preceived as threatening by teachers, parents and community alike, and were related in the minds of observers to the innovations

---

[1] Gertrude H. McPherson, Small Town Teacher, Harvard Univ. Press, 1972. p. xii.

[2] Washington Post , 30 November, 1972. "Ford Foundation Sees School Project a Flop."

in course content and school organization. The conclusion that a foundation spokesman came to was that they underestimated the importance of "minority communities and suburban uptights...We did not have enough of the parties involved in the strategy."[3]

The Ford Foundation's findings coincide with those that have been derived from the present study. Changes in educational systems cannot be achieved by support of tangential programs which depend primarily on teacher implementation and which depend on outside funds for survival. Ford's conclusion, that the community must be involved in school change, cannot be addressed within the scope of the present study. What little evidence we do have of community advisory boards that actually function (the Bayport COP project, for example) suggests that this strategy may not be as effective as the Ford spokesman has indicated.

It is becoming evident that programs that are designed to achieve more effective educational programs and/or educational change must involve personnel who have appropriate positions and decision making powers within the institution. The characteristics of such persons must be determined in relation to the positions they hold in the hierarchy and to the way in which that position is defined by superiors. In a perceptive and sensitive analysis of the dynamics of educational change, Sarason[4] underscores the critical importance of such boundary personnel. He particularly noted the importance of the building principal to innovation at the local school level. He found that, if the principal favored the intervention program with which he (Sarason) was associated, then the classroom teachers were accessable to the program. When the principals were suspicious of the program, uninterested in it or actively hostile and resistant, then there was no way in which the school could be successfully entered. Some very elaborate strategies were required to win the trust of school principals in these cases.

A possible explanation for the principals' general reluctance to implement or support innovation may be the fact that their tenure as principals depends on support by a superintendent, school board, or both. Thus, a principal must be sure that the climate of the system will permit

---

[3] Ibid.

[4] Seymour Sarason, et. al., Psychology in Community Settings. See also his The Culture of Schools and the Problem of Change.

an innovation before he dares to act. This climate depends in part upon the superintendent and finally upon the school board. Intensive orientation to school affairs of school board members is rarely, if ever, accomplished. These persons are typically perceived as transitory and often peripheral to the day-to-day operation of the school. In fact, of course, most board members are not involved in most school decisions, but when it comes to areas of community controversy, the board is very directly involved. To the extent that any innovation is likely to touch off community interest - and rejection - the school board must be actively involved. Furthermore, the role of the board in promoting school change has traditionally been underplayed. Professional educators often resent and resist suggestions for professional direction made by a lay board. Yet a reason often cited by administrators for their failure to innovate is that the boards would not permit it.

The role of the superintendent in educating the school board to change and innovation has been adhered to in theory but not necessarily in practice, especially in the area of the allocation of local funds to support innovation. Can a superintendent, for example, receive from a NCIES project an intensive training program in the assessment of school needs and in possible system-wide solutions? Could he also be trained in techniques of educating school board members and, through them the community, to support educational change? One possible strategy would be to assign a consulting School Study Group to the superintendent's office. Such groups would be composed of school sociologists and experienced school managers and administrators who would serve in an advisory capacity to the superintendent as he moves to counter possible political pressures resisting innovation. The group would attend to public relations and relations with the board as well as relations between the superintendent and other educational personnel: principals, supervisors and teachers. Further, the credentials of a group of outside experts may have some weight in influencing board members: if an outside "expert" makes the suggestion, it may have some weight with the board.

We have alluded to the need for downward communication of innovations. Just as the will of a teacher may be circumvented by an administrator, it is possible for a teacher to evade administrative pressures (and even directives) to change. Gertrude McPherson provides an excellent illustration of how classroom teachers can sabotage administrative directives. An instance is reported in which teachers directly violated a state law, but the peer norms (among the school's teachers) supported such action.[5] It seems evident that all actors in the system must be involved in the innovation process. Neither administrators alone nor teachers alone can be successful. And the support of certain lay groups (school boards and the community) is also important.

Herein lies one clear implication for program guidelines: system-wide change must be incorporated into the project. If innovation (requiring systemic change) is desired, all levels of personnel in a school district must be involved, either as recipients of training or as active participants in the operation of the project. Project training activities could be directed to both teachers and administrators. Of course, the project activity could be "education" rather than training. Administrators could attend workshops or conferences at which the merits of the particular innovation (or of innovation in general) were presented. Such workshops were used in the Edwardia Vocational Education project and met with some success in winning over skeptical administrators. In this case, meetings were held (separately) for both principals and superintendents describing a particular innovative program. Concurrently, teachers from the local schools were being trained in methods of implementation of the program. Although it will be argued by some that the substance of the program (career exploration) is not really innovative, that is irrelevant; the technique appears to work.

In a similar manner, "change teams" composed of personnel from various levels of the school: principals, special teachers, master teachers, regular teachers and paraprofessionals: could be employed to implement change. In Edwardia, project trainees were not change agents; the changes

---

[5] McPherson, Op. Cit. pp. 176-179

were more or less directed from the upper levels of the administration. In other situations (with a less ambitious scope), there may well be the need for change agents. A team such as the one described above may be an answer. Such a plan was followed in the West Kingsland University Teacher Corps project, and, although it was less than successful for other reasons, demonstrates that such an approach is feasible. Again, this kind of structure could be mandated in guidelines; projects (and LEAs) must adopt this staffing pattern if they are to be eligible for Federal funds.

We are convinced that the success of any strategy based on change agentry, either from individuals or teams, can succeed only if the training the agent receives is adequate. A likely reason for the relative lack of success observed in the case studies was that the project trainees did not receive sufficient training in appropriate areas: the methods and theory of organizational change. Once again, our recommendation follows rather directly: change oriented projects must provide training in the theory and methods of change. In recent years, the discipline of Educational Psychology has become important to the training of teachers. We see a need for the involvement of Educational Sociologists, persons with an expertise in the social factors related to instruction as well as to the social forces relating to the operation of educational systems and the change process. If the Office of Education is committed to disseminating innovation, it must recognize the importance of sociology to education.

The role of the change agent has often been likened to that of the agricultural extension agent. The extension agent who provides expertise and demonstrates new techniques of farming will sometimes be successful in getting farmers to adopt these new techniques. The "demonstration farm" (analogous to the "lighthouse school") operates in a similar fashion: new and more effective techniques are presented in operation for the farmer. However, this analogy must fail; we know this technique has not been successful in the dissemination of educational innovation. The farmer has incentives to change: a more effective farming technique means better crops and more profit. The effectiveness of a new method can be clearly proven by research. Most importantly, farming practices do not have

the same emotional connotations that educational practices do. If we were to have an extension agent who not only disseminated new and effective procedures but also provided a financial incentive for the farmer to try them, the analogy would be more appropriate to educational situations. Such is the strategy adopted by the Edwardia SEA: support the local schools when they implement an innovation.

Suppose that we could identify persons of influence, who are in positions to make system wide decisions or to make decisions relating to the deployment of personnel and resources within an IHE. What use could be made of them? Benjamin DeMott [6] has suggested that a communications network of individuals who are aware of the need for new programs and trained in appropriate methods of change will facilitate innovative efforts. DeMott says: "an attempt to draw these people closer so that they can discover the powers lying in their connectedness may well be no trivial undertaking." He maintains that this effort will give rise to the sought after mass movement towards educational improvement: "The people who've mastered it [how real change happens in the schools] are now in a position to freshen their own lives and, just conceivably, the lives of a dozen million kids in the bargain." This is an interesting and provocative position, but the assumptions underlying it deserve critical examination.

DeMott's position is well taken; no one wants to feel that the millions of dollars in Federal funds spent on teacher training have been wasted. The question remains, however, as to whether these individuals who have "seen the light" are in a position to effect change or to influence those who are. DeMott assumes that these people can now call upon their colleagues and lead a mass movement toward <u>real</u> educational change. The reality of educational life does not support this assumption. Most of the individuals DeMott discusses in his article as potential missionaries, personnel in "interface" positions, are but small, isolated parts of a great bureaucracy. DeMott lists some examples of "interface" positions: a professor of education at Harvard, an experimental school director, a founder of an urban communtiy

---

[6] Benjamin DeMott, "When the money stops: what lies beyond for the Office of Education?", <u>Saturday Review</u>, 9 December, 1972, pp. 50-61.

school, and a board of education aide. This, we fear, is simply a reversion to new kinds of ivory towers, and a retreat from the political and operational realities of education. Individuals such as those mentioned do not have the power to mobilize resources or to challenge the existing educational power structures by themselves. If individuals with real power: the Commissioner of Education, the President of the American Federation of Teachers, the Executive Secretary of the NEA, the President of Harvard, some state Commissioners of Education and a few United States Senators got together and decided on a direction for education, one would expect that the entire system would take heed.

Although the likelihood of such individuals agreeing on anything, much less a single direction for the American schools, is remote, it may be worth a few moments of speculation. Such a convergence of prestige and influence could be produced by the total collapse of the bankrupt and demoralized school systems of our major cities. Should the schools explode, a coalition of the individuals named could well occur and the influence that is inherent in them could redirect education. The professional educational world will be ready--instantly--with models for the swift implementation of new educational services. Further, we would expect the influence and resources of the major Foundations, Ford, Carnegie, as well as NIE would be applied to the problems. If all these efforts were to be directed at the same strategies, there might, indeed, be a significant impact. But lacking such a crisis, a call for educational missionaries to share their visions together will surely not produce legions of converts. Educators are neither martyrs nor lemmings.

The potentially most effective strategy seems, therefore, to call for the commitment of significant national leaders, diversion of mass funding into specific, identifiable targets, and deployment of change teams to facilitate innovation. To be effective, these teams will need system-wide information, as well as the support of state and local school systems. The latter can be acquired because the flow of funds can be made dependent on such coordinated agreements. The heirarchical nature of school systems will be the channel through which the administration of the change will pass.

Administrative directives will specify what changes will take place, and the central organization of the school systems will coordinate the necessary training of teachers and reallocation of personnel and resources. Whatever changes are desired will require school board approval and understanding, in addition to the support of the community, perhaps structured into formal, functioning advisory bodies. The role of the teachers and their unions and educational associations is vital; negotiations of contracts must include teacher safeguards, but also agreements regarding administrative prerogatives to shift individuals and allocate resources on the basis of advice of the change teams, with the consent of the school board and citizen advisory groups. Finally, attention must be given to the possibility of having parent aides (volunteers or paraprofessionals, but strictly local residents) attached to every classroom and every service unit. The parent input will provide the community with reassurance that the change is in the best interest of the students.

C. Role of the IHE

Our case studies have shown the IHE to be extremely resistant to change. Most of the projects were peripheral to the ongoing structure of the institution, isolated in Institutes or other types of special structures, or simply appended to the existing departmental structure. In a few instances, such as the TTT at the University of Riceville, where the entire department was innovative, the project became entrenched in the organizational structure of the IHE. More generally, the future of the projects was dependent on the continued existence of Federal funds and the presence of the original initiator of the project. After the funds stop, two things may happen: (1) the program will be adapted by the IHE to make it more congruent with existing training programs and then absorbed by them while the innovative aspect of the project generally disappears, or (2) the program will be completely dropped without being incorporated into existing programs at all. This systemic reaction to innovation is to be expected on the basis of the literature.

The literature on change in higher education is vast, yet it adds up to remarkably little. We do not know very much more about how an innovation becomes adopted or resisted. Although student disturbances and unrest during recent years have collected many headlines, there have been very few structural changes in higher education. Some modest gains have been recorded: more liberal course selection and degree requirements and the relaxation of the physical education requirement, but there has been precious little alteration in the general degree structure or in the traditional lecture/examination instructional process. (We suspect that students do not really want major changes in higher education; rather, they would simply like the present operations improved.) There is little in the literature concerning institutional change in the schools of education, although the Journal of Teacher Education reports new programs. There is a continual request -- from local schools and teacher trainees alike -- for more effective teacher education, yet it is difficult to locate any research that demonstrates that there is any lasting improvement in instructional quality as a result of teacher education or that radically different programs have any different results than the more conventional.

Rarely is "adminstrator education" mentioned other than in some vague calls for change and reports of doctoral studies of administrative behavior.

The symbiotic relationship between the schools of education and the LEAs to which they send their students for their student teaching (practicum) experiences appears to be a major inhibitor of change in the IHE. The LEAs are necessary to the IHE's teacher training program; some schools are needed for the practicum. However, although the training institutions are necessary to the LEAs, the relationship is not symmetric. The IHEs require training locations in relatively close proximity to the campus, so they must remain in favor with the surrounding school districts. The LEAs need a source of trained teachers but they can (and do) hire teachers trained all over the country. Consequently, the IHE cannot risk offending its cooperating schools but the LEA is not so closely tied to specific IHEs. This fact permits local schools to refuse to allow IHEs to implement innovative practicum with the simple excuse that the trainees are inexperienced and should not be allowed to perform the innovative teaching. Consequently, innovative practicum are likely only when the LEA is innovative. If an innovative practicum is integral to the project's training program, and it will likely be if the trainees are to become change agents, then a grant should be awarded only to projects that can document that their cooperating LEAs will permit and actively support the innovation, at least during the course of the project.

A more promising approach toward change that the IHEs may apply is the training of the "change teams" previously referred to, utilizing the expertise of the psychology, sociology and education departments in defining how the team should best be prepared for helping local schools to change. This service could be institutionalized into a center within the IHE devoted to providing consultative assistance to LEAs in the area of the implementation of innovation. Such centers already exist in the area of desegregation and have been rather successful. Many local schools are presently accustomed to receiving technical assistance (usually in curriculum materials or specialized educational matters) from intermediate districts, so the outside expert is no longer quite so threatening.

There is a pervasive need to bring together the practices of both teacher and administrator training programs and ascertain what potential for change there exists, with particular attention to the role of the IHE in this change. Every program must provide some incentive for its participants. The degree conferred by many projects represents a credential allowing the graduate trainee to secure new employment, promotion, or at least a raise in salary (also associated with the simple accumulation of graduate credit hours without a degree). Further, this degree is often a prerequisite for certification, which is a prerequisite for employment. Programs which do not provide such rewards are unlikely to attract many trainees, unless they are made compulsory by the LEA or SEA. That approach, of course, will meet with great resistance from the teachers involved. It would be reasonable for a program guideline to require that the IHE's training program provide some of these incentives.

D. The Possible Role of the SEA

Only one case study (the Edwardia Vocational Education Project) concerned the direct involvement of the SEA in supporting innovation. It is clear from this case that some state departments have tremendous centralized power. The chief officer in a division, given control over budget and approval of local school programs, can plant a program in almost any school system in the state by offering funds to support it or by requiring it for funding eligibility. The educational power centralized in this administrative unit has been the object of much local suspicion and resistence. The day of the weak state department of education appears to be about over, however, since Federal money has bolstered these departments with new personnel and -- more importantly -- new funds. It would be very important for new Federal programs to consider the utility of developing new ties with state departments of education.

The impact of the National Assessment of Educational Progress, supported by the Education Commission of the States, should be evaluated. The fear that preceded National Assessment seems to have dissipated. The findings, while very important, appear to be lost as far as impact on national and local programs. Or is there a spread of impact that we are not aware of? In any event, there might be considerably more impact on local school programs resulting from a deliberate and organized effort to work with state departments of education and aid these groups in supporting more effective educational practices. Without state department support, some local programs may evolve; with state department support many programs can be developed and sustained.

E. The Role of Research

The present study is directed at developing a research base upon which to make policy decisions. There are probably thousands of related studies from individual projects and from doctoral dissertations which have addressed themselves to a similar task. It is extremely wasteful to disregard the accumulated findings. The next step in implementing the findings and conclusions from this study would be to assemble a collection of all related studies to corroborate, amplify or modify our findings. Individuals who have been involved in theoretical or field analysis of educational problems and the problems of change should be mobilized. The state of the art appears to be such that we are, perhaps for the first time, in a position to take a national view of education and prescribe the most promising strategies for changing the educational system toward the goals established by the body politic.

If the training of change agents is to be successful, there must be knowledge as to what behaviors are required of change agents and what techniques are effective for implementing change in the field. This study is only a beginning. Our research design has been limited but there are some explicit directions for future empirical investigation. This investigation is critical if we are to make policy and operate programs on a rational basis and, eventually, improve the educational experiences of our students.