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AN INVESTIGATION OF CORRELATES IN SEARCH FOR PREDICTORS OF CONTINUATION OF EDUCATIONAL INNOVATIVE PROGRAMS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

* * * * *

The Ohio State University
1979

Reading Committee:                      Approved By:

Robert R. Bargar                      Virgil E. Blanke
Virgil E. Blanke                      James E. Kerber
James E. Kerber

Adviser
College of Education
DEDICATION

To the memory of my mother and dad who loved their family and knew the work ethic.

And to Evelyn, Sheila and Dennis for caring.
ACKNOWLEDGEMENTS

At the risk of omitting individuals who have been of considerable assistance to me, I wish to express special thanks to Valija Axelrod, James Bagby, Dr. Jerry Lowder, and Jim Payton for their support and assistance. Thanks to Dr. William Hull for his consultation and use of his collection of literature. A particular thanks to Barbara Smith for a most competent typing job.

I wish also to express thanks to my committee, Dr. Virgil Blanke, Dr. Robert Bargar, and Dr. James Kerber. Their accessibility and counsel were sorely needed and much appreciated.
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<tr>
<td>1955</td>
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<tr>
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<tr>
<td>1970-72</td>
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<tr>
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<td>State Facilitator; Ohio Department of Education, Columbus, Ohio</td>
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PUBLICATIONS


FIELDS OF STUDY

Major Field: Educational Development

Studies in Educational Planning. Professor Donald P. Sanders

Studies in Educational Administration. Professors Frederick W. Staub and Willard Fox

Studies in Educational Evaluation. Professor Robert R. Lange

Studies in Educational Change. Professor Virgil E. Blanke
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CHAPTER I
INTRODUCTION

The research here reported was a study of variables which were observable in the fall of 1976, prior to implementation of an innovative program in fifty-four school districts, and continuations of the program three years after implementation. This was a correlative study in search of independent variables, early indicators, which might be predictors of successful continuation of the innovative program.

The independent variables can be grouped into three sets: (1) demographic characteristics of the project schools, (2) perceptions of project participants prior to inservice training for implementation purposes, and (3) perceptions of project participants following inservice training but prior to implementation of the program. The first set of these variables were chosen in part because they were easily accessible, their measurement was nonthreatening to individuals and school staffs, and the researcher believed that they were likely to relate to successful continuation of the innovation. The individual variables in this first set of variables were derived from research questions of the study. These questions are discussed later in this chapter.

The independent variables in sets (2) and (3) focused on the attitudes of teachers and building principals who were about to be
involved in the implementation projects. The researcher believed that consideration of participants' attitudes was essential to the study.

If social change is to occur, the people to be affected must be heard, involved, and considered at various stages of the change process. Social change occurs by changing individuals' behaviors. Individuals behave in response to their attitudes. Attitudes, in turn, are determined by yet more basic factors—such as values, beliefs, fears, ethics, intuitions, and logic.

Study of these basic factors—how they affect and determine behavior, how they interact when they are in conflict—is usually thought to be the work of social psychologists. The connection of social change to individuals' values and beliefs might suggest that educational change agents have more in common with social psychologists than previous research in educational change and change theory has indicated. This sequence which appears to lead from social change to individuals' basic moral and ethical tenets (or perhaps the reverse direction) is to bring focus on the individual who is to change or accept change and to point out the importance of this person, the client, in the study of change.

The dependent variable, continuation of the innovative program, will be discussed and explained in chapter two. The specific innovation implementation used for this study is one of several which have been available to Ohio school districts through a diffusion effort formerly known as the Adaptation Grants Process, but now termed the Adoption Grant Program. An understanding of this change process, this innovation diffusion effort, is necessary to put this study in proper change theory perspective.
The Adoption Grant Program

The Adoption Grant Program, hereafter referred to as AGP, cycle is composed of a series of tasks and events necessary to provide schools with new and improved educational practices. From identifying programs to be considered as innovative offerings, through the implementation of these programs in selected buildings and classrooms, the cycle requires approximately eighteen months. The initial cycle commenced in January 1974 and resulted in eighty-one implementations during school year 1974-75. The Division of Planning and Evaluation of the Ohio Department of Education has commenced the sixth cycle. To date, one or more of twenty-two different programs have been implemented in school districts through 715 projects. These projects have been supported by ESEA Title IV-C (formerly Title III) grants totalling $8.1 million.

Currently, 147 grants totalling $1.5 million are being awarded to school districts. These grants will support implementation of 23 different innovations during school year 1979-80. Among these 23 are 13 programs which have not previously been offered through AGP. This brings the total number of program offerings to 35.

The Adoption Cycle

Selection of programs to be Offered. Two sets of criteria are applied in the screening and subsequent selecting of offerings. The first criteria are stated as four questions:

1. Were the objectives of the development project which created the program met?
2. Is the program packageable as an implementation project? The considerations here are largely with regard to availability and/or reproduction of materials, whether necessary processes are easily taught (transferable) in a year's time. Also considered is the availability of persons to serve as consultants (trainers) to the projects.

3. Will the implementation project be cost effective? These projects, intended to be seed efforts, are packaged so that cost is approximately $11,000 per implementation project.

4. Among the offerings, are there elementary programs and secondary programs? Are there programs in a variety of subject areas? Are there programs appropriate to meet needs of various school sizes and of various demographic characteristics, e.g., inner city, rural, suburban?

The second set of criteria applied in determining what programs will be offered is stated in three questions:

1. Is the need which the program purports to reduce or eliminate one which is prevalent in a large number of Ohio's schools?

2. Does the project appear to be appropriate for meeting the prevalent need which it addresses?

3. Does the project possess only procedures and activities which are free from obvious controversy?

The first set of these criteria is applied by staff members of the Division of Planning and Evaluation. Thus, initial screening has been done in-house by the Ohio Department of Education. The second set of criteria have been applied in various ways over the years. But there has always been involvement of representatives of school communities across the state. The first and second years of this effort a
task force was established for this screening phase. At other times the ESEA Title IV State Advisory Council* has served to select program offerings. Most recently, a survey of all school superintendents, or their designees, was used in selecting offerings.

Adoption Project Package. In the early 1960s, completely programmed instructional materials for implementing a process or use of a product were in vogue (Hall & Loucks, 1978). These are sometimes referred to as "self-standing" or "teacher-proof" packages. AGP project packages are not "self-standing." While procedural guides set forth activities necessary to implement the process or practice, e.g., project teachers will participate in a three-day workshop prior to September 1, the activities require consultants external to the local school personnel. AGP project packages do not contain all the materials and equipment essential for implementation. These packages include budgets designating the purchase of these materials and equipment, and the grant provides funds for these purchases. Consultants to AGP projects are identified by the Division staff. The AGP package is a broad concept of project packaging. Determining if a project can be packaged for AGP purposes includes learning if there are consultants available to conduct inservice training and learning if needed materials and equipment can be acquired. AGP packages not only include procedural guides, which set forth activities with timeline and design for

*The ESEA Title IV State Advisory Council is a body of persons who represent various components of the statewide education community. The Council's creation and operation is mandated by federal regulations. The Council advises the State Superintendent in policy matters related to the administration of this legislation.
fidelity evaluation, but the package also includes the project budget and grant funds necessary for purchase of materials, equipment, services and other costs related to implementing the project.

Funds from AGP grants are not used by project schools to create positions. Current members of schools' staffs serve as project staff personnel--as project participants. Grant funds are used to pay a member of the school staff to serve as project coordinator. As project coordinator, the staff member is responsible to assure that project activities occur, that materials and equipment are ordered and available when needed, that reports are submitted to the Division and that funds are spent appropriately. The project coordinator and the project participants may receive stipends from the grant for time spent on project activities which occur outside of the regular school work day.

The emphasis of AGP projects is implementation through inservice. The intent is to use grant money to teach teachers, administrators, aides and other appropriate staff members how to conduct an educational practice. When the grant period of one year ends and the funding ceases, the school will have personnel with knowledge, skill, and expertise to not only continue the educational practice, but also to assist other staff members. These persons who now know how to conduct the educational practice, in addition to utilizing what they have learned, will be available as resources to assist others as the practice is spread to other classrooms and additional buildings within the school system.

AGP projects are heavily dependent on consultant personnel. In an effort to assure that the program is implemented as designed,
i.e., that there is a high degree of fidelity, consultants are selected by the Division of Planning and Evaluation staff members. Care is taken to select as consultants, individuals who have thorough knowledge of the respective programs and have had successful experience in implementing the programs. Frequently, these consultants are the former directors of the projects which developed the respective programs.

Funds are provided through the project grants to pay for necessary consultant time and expenses. Money is also included in the grant for telephone and postage so that project personnel can stay in close communication with consultants as needs arise.

As nearly as possible, Adoption projects are cost free to boards of education. They do not require matching funds. The grants include funds sufficient to cover project-related costs above and beyond the existing school program costs.

**The Procedural Guide.** A procedural guide is developed for each project type, i.e., each program offering. Packaging the various projects includes developing descriptions of what is required to implement the specific project. These descriptions are broken out into specific activities and these activities are published in the project procedural guide in a one-year timeline. Evaluation designs are included in the procedural guide. These fidelity-type evaluations are to determine if the program is implemented as it was designed.

The procedural guide, too, includes the budget worksheets. These worksheets consist of formulas to be used by applicants in calculating budgets. Applicants determine the number of participants to
include in their implementation projects. (Maximum numbers of participants are designated for each type of project.) The numbers of participants, classrooms, and buildings-to-be-involved are interjected into the formulas to permit calculation of the budget. The budget developed by using the budget worksheet establishes the amount of the ESEA Title IV-C grant being requested.

The procedural guide serves three purposes: (1) it provides inquiring school personnel with information as they decide whether or not to apply for a specific type of project, (2) it provides information necessary for school personnel making application for a grant, and (3) it provides personnel in a school district which receives a grant with procedures to be followed in implementing the project.

Application. Application forms are designed to reflect criteria established by the State Advisory Council. The major intent of AGP projects is to assist school personnel to meet particular needs. Thus, the application form requires: (1) a description of the school's specific need, (2) a description of how the need has been ascertained, (3) a description of how the project being applied for could help alleviate the need, and (4) an explanation of who was involved in identifying the respective needs and deciding to apply for the grant. The total application form is limited to two pages. The brevity of the application is to permit schools which do not have personnel available to write long, complex proposals to compete with those that do have such personnel available.
Awareness. A letter is mailed to each public school superintendent in January. This letter describes the AGP process, explaining that schools can make applications for grants to implement innovative programs. Times and places are announced for awareness sites. Superintendents are informed that at these sites school personnel can learn about the program offerings and get information and materials for making applications. This letter encourages superintendents to watch the FOREWORD, the Division's bimonthly newsletter, for information regarding the programs to be made available.

The January-February edition of the FOREWORD gives details regarding the AGP and the offerings. The FOREWORD is mailed to every superintendent and every public school building in Ohio.

When opportunities avail themselves, the Division provides speakers to explain the AGP and the innovations being offered.

Awareness sessions are conducted in different locations throughout the state. The presentations at each site are identical. The Division personnel make a presentation to all in attendance to explain the AGP and how to make applications for grants. Following this large group presentation, the school personnel attend small group sessions where they learn about the specific program offerings. The small group sessions are conducted by persons who are knowledgeable about the projects. These persons, in most instances, will serve as consultants to the project schools.

Materials passed out at awareness sessions include packets for each of the types of projects. Included in a packet is the procedural guide for that specific type of project, samples of
instructional materials to be used in the implementation of the pro-
gram, and application forms including budget forms necessary for
applying for a grant.

Judging Applications. School districts compete for funds with other
school districts based on: (1) the importance of the need expressed,
(2) the means used in identifying the need, (3) the appropriateness of
the need to the project being applied for, and (4) indication that
there is a broad base of support for the program being sought. These
criteria are compatible with the requirements for application discussed
previously.

Educators from across the state are used to evaluate the
applications. This group consists of teachers, principals, school
superintendents, county school system superintendents, and university
professors of education. Each application is read and rated separately
by several panel members.

These raters are instructed to weigh the applications against
the stated criteria. A numerical score is assigned by each rater.
Thus, an application receives several numerical scores, the total of
which constitutes the application rating. Using these ratings, the
applications are ranked. These data are submitted to the State Ad-
visory Council.

Recommendations of the State Advisory Council. The State Advisory
Council takes into consideration several sets of information in making
its recommendations to the State Superintendent of Public Instruction.
The total grant funds to be awarded are fixed by the Division budget. This total amount constitutes a constraint in which the Council must function as it considers applicants to be awarded grants. Consideration is given to the number of each type of project which can be accommodated by the consultant personnel who are available to serve the project.

The State Superintendent of Public Instruction receives the Council's recommendations and subsequently, funding of projects is approved.

**Project District Representatives Meet.** Applicant districts are informed of the decision on their applications soon after the State Superintendent's decision is made. Districts receiving grants send a representative, preferably the person who will serve as project coordinator, to a one-day meeting to receive information relating to administering projects. At this meeting, Division staff members speak to the project representatives about contracting, requesting revisions to budgets, and other tasks required in administration of a project funded with an ESEA Title IV-C grant.

The representatives also meet with the consultants to their respective types of projects. In these small group sessions, schedules and other details related to inservice training of project participants are established. Consultants explain project activities and answer questions which the project representatives have regarding inservice training, and the ordering of materials, supplies and equipment.
Monitoring Projects. Projects are monitored by Division staff personnel. The monitoring is done by benefit of on-site visits and written reports from project coordinators and from project consultants. The project coordinator submits periodic reports to the Division. These reports set forth: (1) any project activities which are behind schedule along with an explanation of what will be done to meet project deadlines, (2) concerns or constraints experienced by the coordinator and suggestions for resolving same, (3) description of nonpublic school involvement in the project, (4) activities planned for the ensuing period, and (5) funds expended or encumbered during that reporting period and total funds expended or encumbered to date.

Following each inservice training session, project consultants submit reports to the Division. These reports describe the activity and any concerns held by the consultant related to the activity or the way in which the project was being implemented by that particular school district. The consultant includes the attendance list for the inservice activity.

Monitoring projects includes reading the reports from coordinators and consultants and contacting, usually by telephone, the coordinators regarding concerns reported which appear detrimental to implementation of the project.

Final Reports. The project coordinators are responsible for administering evaluation instruments provided by the Division and/or purchased from the project grant. The coordinators are responsible for collecting and analyzing data according to the design in the procedural guides. The coordinators report these results of evaluation to the
Division. The coordinators also submit plans for continuation of their projects. The evaluation reports and continuation plans, along with the final expenditure reports, constitute the final report.

The National Diffusion Network

The AGP is, in part, a function of the Ohio Facilitation Center, a component of the National Diffusion Network (NDN). NDN, a federally-funded effort, is administered by the Division of Program Replication, a newly-created division of the U.S. Office of Education.

This network is comprised of Developer/Demonstrators (D/Ds) and State Facilitation Centers (SFCs). A D/D is a person who has been designated by NDN to do diffusion activities, specifically awareness and training activities, to effect implementation of a specific program. This program must have been approved by a review process conducted by NDN and the National Institute of Education (NIE).

State Facilitation Centers are supported by federal funds awarded by NDN. SFCs are linkage agencies between D/Ds and school districts in their respective states, and between various program developer agencies in their respective states and NDN. As linkage agencies between D/Ds and schools, SFCs endeavor to assist schools to identify needs and to meet these needs with NDN programs. SFCs conduct activities to enhance cooperation between school district personnel and D/Ds. SFCs also have a responsibility to identify and assist innovative programs which the SFC believes should be considered for inclusion in the NDN program offerings.

NDN was created at the federal level at about the same time as the Adoption (Adaptation) Grant Program was started in Ohio. The
Ohio Department of Education, Division of Planning and Evaluation, has worked closely with or housed the Ohio Facilitation Center each year since June of 1974. The activities of the Facilitation Center and the AGP have been complementary. The NDN and SFC were not funded by Congress during school year 1976-77. The AGP continued to utilize D/Ds during that year.

The National Diffusion Network has been discussed here to create a fuller understanding of diffusion, as perceived by the researcher, and to help establish a framework for this study. Reference is made in Chapter II to NDN, a significant diffusion process.

**The "Teacher Self-Evaluation Process"

The "Teacher Self-Evaluation Process" was an Adoption (Adaptation) Grant Program offering during school years 1974-75 through 1976-77. As discussed earlier, ESEA Title IV-C (Title III) grants were awarded to different school districts in Ohio to support implementation of this program.

The "Teacher Self-Evaluation Process" program was selected in the summer of 1976 for this study for several reasons:

1. This offering had been diffused in two earlier cycles. Thus, implementation procedures were determined to be appropriate.

2. Consultants to this offering had received sufficient training from the developer of the innovative program to maximize trainer reliability between projects.

3. The number of projects being funded was sufficient to provide a population appropriate for the study.
4. Characteristics of the offering are easily observed, providing relative ease to measurement of the presence or absence of the program.

In the three years the "Teacher Self-Evaluation Process" was available as an AGP offering, it was a major diffusion effort. Either through implementation grants to the school districts or to county school systems, which are responsible for serving local school districts, this innovation was made available to one-third of the school districts in the state.

**Statement of the Problem**

**An Opportunity.** Replication and dissemination of educational innovations is currently receiving considerable attention in this country. Since the NDN was created by the U.S. Office of Education in 1974, over 230 innovative programs have been disseminated in the nation's elementary and secondary schools. NDN has provided funds to support both the replication and dissemination efforts necessary for effective diffusion.

The Rand study pointed out that:

The (U.S.) Office of Education has generally not provided technical assistance directly to local school districts. The federal role has been indirect, through support of regional laboratories and centers, of technical assistance components in local grant applications, and of the activities of the National Diffusion Network. Among these networks, the work of the National Diffusion Network comes closest to realizing the goals of adaptive implementation assistance (Berman & McLaughlin, 1978, p. 41).

The ESEA Title IV-C (formerly Title III) legislation, since its creation in 1965, has contained provision for dissemination of
innovative programs. Ohio has expended over eight million dollars of Title IV-C funds to diffuse needed programs to schools throughout the state.

In Ohio the Title IV-C program and the State Facilitation Center are both housed in the Division of Planning and Evaluation of the Department of Education. The resulting coordination of these two programs to create and operate the AGP evidences the significance which this State Education Agency (SEA) attributes to educational innovation diffusion. Cheryl Hutchison, in an unpublished paper written in 1978, pointed out that few actual experiences relating dissemination to state education agency priorities are contained in the literature. She went on to state that "dissemination personnel who have or are working in SEAs constitute the richest resource base on the topic, and additional documentation by them would greatly enhance understanding of the problems and success encountered" (p. 10). Hutchison also implied that dissemination personnel working in SEAs are in a position to see and feel need for more research in the diffusion process.

The Problem. Presently, considerable amounts of money, time, and human energies are spent on dissemination and diffusion efforts to implement innovative programs in schools and classrooms. These resources are spent with no or little assurance that the innovation will be continued beyond implementation. Consequently, valuable, irreplaceable resources are often wasted on diffusion and implementation projects because the implementations will not continue. Currently, there are not ways of determining which implementations are likely to continue.
Purposes of the Study. The researcher, a facilitator in the Ohio Department of Education, was interested in learning if there are indicators which can reveal whether or not an innovative program will be continued by a school beyond implementation. Such indicators could result in opportunities to improve implementation activities where necessary. Such indicators could create greater fiscal credibility. Such indicators could direct further research to seek appropriate interventions and interactions in the change process.

The researcher, in search of variables which might serve as indicators of levels of continuation, considered feasibility of various identified variables. Appropriate research literature was also consulted to learn what was known about these variables.

Independent variables considered for this study were: (1) various sociological and psychological characteristics which project participants, both teachers and principals, possessed; (2) percentage of the teachers in a project building participating in the implementation project; (3) percentage of the teachers in a project district participating in the implementation project; (4) grade level taught by teacher participants; (5) size of student population of participating district; (6) project district's history of involvement in developing and/or implementing innovations; and (7) participants' attitudes toward and perceptions of the innovations.

Project participants have been described by Rogers and others as innovators, adopters, early majority... and laggards (Rogers & Shoemaker, 1971, p. 181). Researchers and social change theorists
have attempted to quantify change clients by ordering them according to these labels. The reasons why this study does not utilize these frequently used descriptors is explained in Chapter II.

Specific Factors Considered for the Study.

Sociological and psychological characteristics of teachers and principals. Limitations inherent in ex post facto research dictated that certain independent variables could not be included in this study. The various social and psychological characteristics of participants were not included as independent variables in this study. Because of the sensitivity in dealing with such personal factors, these characteristics would be difficult to study in the most ideal of field studies. As an ex post facto study there was not opportunity to manipulate these variables (even if such manipulation were permissible).

Percentage of teacher participants in a participating building or in a participating district. The percent of building staff participation could be ascertained for only a limited number of cases in this study. If this population is sufficiently large, it will be examined for indications of correlation to success. At best, the significance of findings will be limited due to the small n. Data were available for most schools to allow percentage of district staff participation to be included as an independent variable. These are examined for indications of correlation to success.

Grade level taught by teacher participants. Was grade level taught by teacher participants an indicator of successful program
continuation? The literature, while it addressed this variable, was not conclusive. Lippitt (1974) addressed insecurity as getting in the way of change. He believed that uncertainty and anxiety were more characteristic of teachers in the elementary school than in the secondary school.

Insecurity is another important source of resistance. Uncertainty and anxiety about one's ability to perform, the expectations of superiors, evaluation procedures, and so forth, may also discourage change, particularly among elementary school teachers. Teachers will not respond to a problem with innovative solutions.... Insecurity is a partial consequence of low status. Perhaps low teacher status produces low self-esteem, which in turn creates insecurity in the face of opportunities to experiment. (p. 40)

Emrick (1977) contradicts Lippitt's hypothesis. He (Emrick) explains why NDN innovative offerings should be better received at the elementary school level.

The organizational structure of elementary schools is less complex than that of secondary schools, which makes local coordination and management as well as provision of assistance from NDN staff simpler at the elementary level. (p. 133)

The Rand study supports Emrick's conclusion:

Change was typically harder to obtain and continue at the secondary level. The reasons for secondary schools' difficulties are too numerous to detail here, but perhaps it is worth citing the problem most mentioned by practitioners. In the words of one superintendent commenting on difficulties encountered on a career-awareness project, "[high school] teachers are simply unwilling to vacate [what they see as] their responsibility to subject matter in adjusting to supplementary materials." In short, secondary school teachers may be "subject-oriented," in contrast to the "child-centered" orientation attributed to elementary teachers. (Berman & McLaughlin, 1978, p. 32)

The positions of Emrick, and Berman and McLaughlin, appeared to the author to be better founded in scientific research than the
theory of Lippitt. However, the works of Emrick, and Berman and McLaughlin were limited to particular innovative implementation efforts. The "Teacher Self-Evaluation Process" project, required that teachers be videotaped in their teaching situations. The researcher reasoned, "videotaping, with the accompanying fear which it often induces, may reveal support for Lippitt's position."

Some project districts used in this study included both elementary and secondary teachers as participants. Such districts could not be included in consideration of this variable since participants were not identified by grade level and since successful continuation was measured in the district, not by building. Those districts which had elementary or secondary school implementation were studied in an effort to determine if significantly different correlations existed for the two types of schools.

Size of school district. If, indeed, there was significant difference in experiencing continuation success because of school size, the researcher needs to know. How such knowledge might be used by a disseminator in a state education agency is not immediately obvious. But, if such correlative differences exist, knowledge of such is necessary for building a sounder scientific base for the field of educational innovation diffusion.

Related to this study is the debate between small school advocates and large school advocates which often occurs in school district reorganization considerations. If school size is related to successful continuation of innovative programs, such information should be available to decision makers working in district reorganization.
The researcher found the viewpoints expressed in the related literature to be somewhat inconsistent. Averch et al. (1972) state that, "innovation, responsiveness, and adaptation in school systems decrease with size" (p. 156). Brickell (1974), on the other hand, believes that extremes in size are hindrances to change.

Extremes in size create barriers to adoption. Very small schools, especially if they are in isolated rural settings, are as difficult to deal with as great cities.... Tiny districts lack talent and resources; huge districts become bureaucratic and develop serious internal communication problems. There is a wide band of sizes--roughly from 5,000 pupils to 50,000 pupils--in which school districts seem susceptible to innovations. (p. 13)

The findings of a study done under the auspices of the Ford Foundation during the 1960s, The Comprehensive School Improvement Program, lends support to Brickell's positions. This study found that small schools changed faster than large ones. "The most lasting improvements seemed to occur in middle-sized suburbs" (A Foundation Goes to School, Nov., 1972, p. 12).

Emrick (1977) states, "the majority of NDN adoptions occur within rural or suburban school systems. Urban school systems, which serve a large portion of the nation's student population, account for only 20 percent of the NDN's reported adoptions" (p. 132).

Does responsiveness to change decrease with size, as believed by Averch et al., or is largeness in schools an inhibitor to change? This study did not include large urban districts, thus, the success record of very large districts could not be included. The range of district sizes was from 459 to 20,438 students. The study addressed the independent variable related to school size using the sizes within this range.
School district history of innovation. The researcher intuitively supported the position that school districts with a record of accepting change could be more likely to continue an innovation than one without such a record. In fact, the researcher believed that logic dictates that such correlation exists. Brickell (1974) doesn't doubt that change follows change; he only questions the cause-effect relationship.

Quite possibly a district's reputation for innovativeness is simply acquired over time as a result of other characteristics and is not a causative factor at all. And, yet it does seem that a certain momentum is created in some districts that have a strong local tradition of trying out new ideas. (p. 15)

Participants' attitudes and perceptions. The attitudes and perceptions of the project teacher participants were, in the opinion of the researcher, most significant aspects of this study. The related literature, reported in Chapter II, indicated need for research related to clients' attitudes toward innovations. Zaltman et al. (1977), discussing resistance to change in education, cited Lippitt's (1974) "dimensions relevant to...facilitating and hindering change." Among these dimensions were personal attitudes involving openness to innovation and openness to outside assistance, and innovation relevance to need (pp. 30-31). This researcher looked for relationships between these attitudes as revealed by the Teacher Participants' Perceptions of the "Teacher Self-Evaluation Process" Adaptation Project instrument (Appendix), and levels of successful continuation of an innovation.

The Rand study found that building principals were "key to both implementation and continuation" of change (Berman et al., 1977,
McLaughlin & March (1978) pointed out that central office administrative support for classroom innovations is important. They continued:

> the attitude of the building principal was even more critical to the long-term results of a change-agent project. The support of the school principal for a special project was directly related to the likelihood that staff would continue to use project methods and materials after special funding is withdrawn. Furthermore, principal support positively affected project implementation. (p. 81)

Emrick (1977) found that both administrative and teacher support were important to adoption, but he did not address continuation of change.

The success or failure of an NDN adoption is due largely to the leadership exercised by the primary contact in obtaining informed consent from local administrators and in locating and coordinating the activities of the instructional staff who carry out the actual implementation. The involvement of successful primary contacts usually extends to both administrative and instructional areas. (p. 133)

The researcher believed that attitudes of the participating building principals, as well as attitudes of the participating teachers were sufficiently important to be studied. If positive correlations were found between principals' attitudes and successful continuation, and/or between teachers' attitudes and successful continuation, the relatively simple measurement technique would be considered as a means of forecasting problems and successes.

Hull and Kester (1975) found, from their study of perceived effectiveness of innovation of diffusion tactics, that persons who tended to see themselves as powerless to adopt or reject an innovation were likely to view diffusion tactics as relatively ineffective while
subjects who identified with the role of change advocate tended to have a positive view of diffusion tactic effectiveness (p. 57). The Hull and Kester study suggested that a confounding variable might be present in this study. A measure of teachers and principals' attitudes toward the effectiveness of the program may be, in part, a measure of teachers and principals' attitudes toward the effectiveness of the diffusion tactic. However, the researcher envisioned effectiveness of the innovation and effectiveness of the diffusion tactic as two quite different phenomena. Thus, there was no effort in this study to differentiate the two. The researcher reasoned that the items of the pre- and post inservice measurement instruments were stated sufficiently clear to avoid confusion about what was being measured.

As discussed earlier, the training is an important feature of the AGP. The researcher reasoned that training might alter attitudes of principals and teachers toward the innovation. If such altering existed, it should be known. For if attitudes were to be found to deteriorate between pre- and post training observations, inquiry needs to be made into the cause of such deterioration. If attitudes of and expectations for the innovation were heightened by training, perhaps some of the training elements could be moved to the awareness activities thereby arousing more interest among school personnel for the innovation.

If no change of attitude occurred between pre- and post training observations, and attitudes were positive, this still might have indicated that awareness activities are appropriate. If attitudes were found to be negative both pre- and post training, perhaps
both awareness and training activities need to be scrutinized as well as the innovation and the implementation process. If attitudes, both pre- and post training, were found to be neither positive nor negative but somewhere between these extremes, then concern will be raised similar to those raised by negative findings.

The dependent variable for this study was successful continuation of the innovation three years after implementation. The Rand study as reported by Greenwood et al. (1975); Berman et al. (1977); and Berman & McLaughlin (1978); accepted as the dependent variable, first, implementation of change and, then, continuation of the innovation after the end of federal funding to the school districts.

Evans & Scheffler, as cited by Hall & Loucks (1978a), stated that "measuring the degree of implementation has been of increasing interest to evaluators and researchers" (p. 6). Continuation of innovations appealed to the researcher's rational being as a logical intention of expenditure of money, time, and effort to implement innovations.

Further discussion of successful continuation and levels of continuation are explained in Chapter III. In that chapter on methodology, the measurement of continuation as well as the analysis of the study are discussed.

**Summary.** Baseline data have been included to provide the reader with an understanding of the philosophical, the academic and the functioning frameworks within which this study was executed. Philosophically, the rationale was set forth for the considerations of this work.
Academically, the literary background was established, as it is further established in Chapter II. By "functioning framework" the researcher intends the ongoing activities of practitioners in diffusing educational innovations. Activities such as the National Diffusion Network and Ohio's Adoption Grant Program have been explained and discussed.

Rationale for conducting the study have been set forth. The need for the study as well as appropriateness of the researcher's perspective and opportunity were discussed.

The problem is explained in terms of need. The researcher mentioned waste of resources; i.e., dollars, time, and human energies; which resulted from inability to predict success and not knowing where appropriate interventions should be made.

The purpose of the study has been discussed in terms of the independent variables. Rationale was set forth for inclusion of some variables and exclusion of others. The following research questions resulted:

a. Did size of school district correlate with success?

b. Did grade level taught by participant teachers correlate with success?

c. Did percentage of building staff participating in the implementation project correlate to level of successful continuation?

d. Did percentage of district teachers participating in the implementation project correlate with success?

e. Did participating district's history of involvement in development and/or implementation of innovations correlate with success?
f. Did teacher participant perceptions prior to inservice training correlate with success?

g. Did principal participant perceptions prior to inservice training correlate with success?

h. Did teacher participant perceptions following inservice training but prior to implementation correlate with success?

i. Did principal participant perceptions following inservice training but prior to implementation correlate with success?

Terms, Limitations and Assumptions

Terms. The reporting of this investigation of predictors of continuation of innovative programs required use of terms unique to the study. These terms are defined as follows:

Adoption Grant Program An educational change diffusion program conducted by the Ohio Department of Education. This program is referred to in this text by the abbreviation AGP. This diffusion program was called the Adaptation Grants Process for the first four years, 1974-78, of its operation. Throughout this text the term Adoption Grant Program (AGP) is used.

Diffusion Diffusion and dissemination are referred to by some authors synonymously. In this text diffusion implies not only communication of information about innovative programs, it also implies acceptance and adoption of the programs by clients.

Dissemination Dissemination is concomitant to awareness efforts. Dissemination implies providing information and resources to clients to the point when decision is made to accept or reject the change.
**ESEA Title IV-C**

The Elementary and Secondary Education Act (ESEA) of 1965 was federal legislation which provided programs and funds for public education. Title III of this legislation provided funds through state education agencies to support innovative and exemplary efforts of local education agencies. The efforts of Title III through legislative revision came under Title IV-C in 1977. Throughout this text ESEA Title III or Title IV-C refers to the innovative and exemplary legislation and funds.

**Grant**

Three terms—grant, program and project—are frequently used synonymously creating misunderstanding. In this text grant refers to the funds which support the operation of a project.

**Program**

Three terms—grant, program and project—are frequently used synonymously creating misunderstanding. Program in this text refers to an educational curriculum, practice or operation procedure.

**Project**

Three terms—grant, program and project—are frequently used synonymously creating misunderstanding. Project in this text refers to an activity or series of activities which are intended to produce a product. The product may be a program, a process or a tangible item such as a text or other teaching/learning materials.

**Limitations**

1. The use of mail survey to collect data from respondents made reliability difficult, sometimes impossible, to obtain.

2. Use of a small number of professionals to check the validity of survey items and instruments presupposed that expert analysis was not a biased view of the items and the instruments.
3. A correlative, *ex post facto* study is not exact, highly controlled research. There is risk of undetected confounding variables affecting measurements. Such variables can result in erroneous measures and invalid interpretations.

**Assumptions**

1. Changes which have occurred in components of the Adoption Grant Program since school year 1976-77 have not appreciably altered the total program.

2. The "Teacher Self-Evaluation Process" was representative of other educational innovations.

**Organization of the Thesis**

The literature related to the study is reviewed in Chapter II. The Science of Social Change, Educational Change, The Significance of the Rand Study, Problems Related to Change Research, and Difficulty of Bringing Change to Education. In Chapter III the methodology of the study is described, Research Design, Instrumentation and Statistical Analysis. In Chapter IV the findings are presented, Revisions of the Research Design, Available Data and Discussion of the Discriminating Variables. Chapter V sets forth the Conclusions and Implications and Recommendations for Further Study.
CHAPTER II
REVIEW OF RELATED LITERATURE
The Science of Social Change

The study of social change is perhaps best understood through a concept of the need for the science of social change. Ralph Linton (1936) stated that, "If every human group had been left to climb upward by its own unaided efforts, progress would have been so slow that it is doubtful whether any society by now could have advanced beyond the level of the Old Stone Age" (p. 324).

Rogers and Shoemaker (1971) quoted Tardes' 1903 statement, "we need to learn why, if 100 different innovations are conceived simultaneously, ten will spread while ninety will be forgotten" (p. 1).

The science of social change includes hypotheses, theories, techniques and experiments directed toward (1) understanding the diffusion of innovations, and (2) controlling this spread. Social change is broader than the change agent, such as a county extension agent calling on a client, a farmer, to explain the benefits of particular innovations. Social change is brought about through revolution as well as invention, social change may occur because a governmental structure is changed or because a policy is adopted or a law is passed. Social change may occur because a tradition accommodates it; or, as is often the case, a change may be rejected by a society because tradition is
in conflict. Often, change does or does not occur depending on the knowledge and skill of the change agent.

While living in the north of Nigeria from 1967 to 1970, the researcher observed the efforts of agricultural innovators to persuade the indigenous farmers to grow a different variety of corn. The native guinea corn has a long stalk with the grain in the tassel similar to our native maize. The quantity of grain per stalk is very limited with a great deal of the plant's nourishment used to produce the eight to nine foot stalk.

In contract, the corn being introduced had a short stalk, four to five feet, with two large ears of corn per stalk. Thus, the limited water and scarce farm land could produce a much greater quantity of food commodity. The innovation was adopted and apparently the fight against hunger and malnutrition took a step forward.

Shortly after the departure of the agricultural innovators, the local farmers returned to raising their guinea corn. The change agents who introduced the "superior" corn variety failed to recognize that the tall stalk of the native corn is woven into mats and used as a basic building material. The population is dependent on this material. Without something to replace the guinea cornstalk as a building material, the natives chose not to accept the change which would have given them more food.

The study of social change includes knowledge of the needs, attitudes, traditions and values of the people who are to accept change. Such knowledge of the potential users of innovation is akin to the importance of involving those affected by change which was
discussed in Chapter 1. Bholu (1965) said "any organized intelligent planning for social change is dubbed as manipulation, thought-refort, an ugly battle for the minds of unsuspecting men" (p. 4). The importance of considering the client in the process of social change is discussed later in this chapter. This client-orientation phenomenon is cited here to assist the reader to understand the science of social change.

Rogers and Shoemaker (1971) believed that social function and social structure were helpful to understanding social change. These two entities "are closely linked and reciprocally affect each other" (p. 8). The Boers were Dutch farmers in South Africa. But when they became dissatisfied and militant, their role changed from farmers to soldiers, rebellion occurred, and social change took place. Or did social change take place when these farmers became soldiers? Certainly, social function and social structure "reciprocally affect each other" and are keys to social change.

Reference has been made in the preceding pages to change agents. But, who are the change agents? Thomas Edison, Albert Einstein and the Wright Brothers were change agents. School teachers, newspaper editors and salesmen, too, are change agents. In various levels of formality, everyone is a change agent—as a parent instructs a child and as a boss influences the behavior of employees and employers influence the behavior of their boss.

The type of change agent important to this study is the more formal change agent--responsible for diffusing innovations and thus causing people to behave differently. Edison was a change agent as a result of his primary role as inventor. The change agents here
considered were persons whose primary responsibility was diffusing innovations. The author does not imply that Edison, Einstein and the Wright Brothers were less effective in bringing change to society. The comparison of primary and secondary change agent roles is for the purpose of clarifying for the reader an important facet of the science of social change. Kingston (1977) used Marconi as a contract to Edison, both of whom were change agents. "Marconi was no scientist. His contribution to radio was not to invent anything, but to make apparatus of a laboratory type work commercially. He was an innovator—indeed in possessing a certain narrowness of outlook, he was even more of an entrepreneur" (p. 71). Innovation diffusers were the change agents important to this study.

"The time lag between a technical discovery and recognition of its commercial uses was 30 years before World War I, 16 years between the wars, and only nine years since World War II" (Bennis, 1969, p. 20). The reduction of lag time between discovery and use was undoubtedly due to many effects including the coming of the computer and improved communication technology. Certainly, greater emphasis on diffusion of innovation was, too, a significant cause of this reduced lag. Bennis (1969) believed that this reduced lag time was due to the fact that the United States had a more pragmatic attitude toward knowledge than did other societies.

Harrison Salisbury, of the New York Times, observed during his travels in the Soviet Union the almost total absence of liaison between research and practical application. He saw only one agricultural experimental station on the American model. There, professors were working in the fields and told him, "People call us Americans." (p. 25)
The 1960s and early 1970s were a period of much work in developing innovation processes. Zaltman et al. (1973) presented a summary of individual-oriented models of this process.

### Summary of Individual Oriented Models

#### Lande & Stewart (1961)
- Awareness
- Knowledge
- Liking
- Preference
- Convention
- Purchase

#### Rogers (1962)
- Awareness
- Interest
- Evaluation
- Trial
- Adoption

#### Corley (1961)
- Unawareness
- Awareness
- Comprehension
- Conception
- Action

#### Robertson (1971)
- Perceptions
- Knowledge
- Attitude
- Legitimation
- Trial
- Adoption

#### Zaltman & Breuer (1971)
- Perception
- Motivation
- Attitude
- Legitimation
- Trial
- Evaluation

#### Rogers & Shoemaker (1971)
- Adoption
- Rejection
- Confirmation

Figure 1. Summary of individual-oriented models of the innovation process. (p. 51)
Attention is drawn to the terminal ends of each of these models. Each of the models carried the innovation to adoption (Colley used the term "action," Lavidge and Steiner used "purchase"). Comparison of the earlier (1962) and later (1971) Rogers and Rogers & Shoemaker models reveals an increased significance given to utilization of the innovation. However, none of these models dealt with continuation and institutionalization of innovations.

Organizational oriented models of the innovation process, as shown in Zaltman et al (1973) summary, indicated greater emphasis being given to implementation and continuation of innovations.

Summary of Organizational Oriented Models

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<td>1. Conceptualization</td>
<td>1. Idea generation</td>
<td>1. Evaluation</td>
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<td>2. Tentative Adoption</td>
<td>2. Adoption</td>
<td>2. Initiation</td>
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<td>4. Implementation</td>
<td>4. Routinization</td>
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<td>5. Institutionalization</td>
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<th>Wilson (1966)</th>
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<td>1. Conception of the Change</td>
<td>1. Initiation stage</td>
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<td>2. Proposing of change</td>
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<td>3. Adoption and Implementation</td>
<td>1. Initiation stage</td>
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<td>2. Formation of attitudes toward the innovation substage</td>
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<td>11. Implementation stage</td>
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<td>1. Initial implementation substage</td>
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<td>2. Continued-sustained implementation substage</td>
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Figure 2. Summary of organizational oriented models of the innovation process. (p. 62)
While "institutionalization" and "implementation" were considered in these models, sufficient attention, in the opinion of the researcher, was yet lacking. Emphasis on implementation, continuation and institutionalization needs further attention by theorists, researchers and practitioners.

Most diffusion theorists generally terminate their analysis at the stage of initiation, that is, at the point either where the new idea has become legitimated by powerholders of the unit or where the decision has been made to implement the new idea. Some authors contrast diffusion of innovation with planned change or what Bennis (1966) and Hornstein et al. (1971) called "deliverate innovation." It appears, then, that the studies of diffusion of innovations and the studies of planned or managed change tend to focus on two different stages of the same process. As noted by Becker and Whisler (1967), "the theory of (diffusion of) innovation, when adequately developed, will complement the theories of managed change." (Zaltman et al., 1973, pp. 58-59)

Educational Change

The coming of Sputnik and the ensuing National Defense Education Act (NDEA) and the Elementary and Secondary Education Act (ESEA) legislations of the late 1950s and mid-1960s brought pressure for change in education. Inasmuch as education is a social science, educational theorists looked to the social sciences for change models. Educators, observing the success experienced by rural sociologists, health services, and the military-industrial complex, turned to these quarters for change theory. The five stage, social interaction model of Everett Rogers which successfully guided and explained innovation
adoptions in agriculture, and the research and development model which successfully served the U.S. Polaris missile and U.S. space programs, were quickly embraced by educators.

Important oversights were made in adopting successful models from other fields. The goals of education are more abstract, less easily defined and more complex than were the goals of rural sociologists and the space program. James (1971) claimed that we have been notably unsuccessful as a society in this century in stating our aims of education (Averch et al., 1972, p. 166). Possibly the lack of goals in education is a basis of the problem, but regardless, successful change in education is not as easily measured as bushels of grain per acre or men safely returning from a walk on the moon.

The difficulty of defining, identifying and measuring the end product of education change is closely related to a second oversight which the researcher believed was made when educators adopted change theory from other disciplines. Educators, apparently believed that the various change models, with their lack of emphasis on implementation, continuation and institutionalization, were thought appropriate for education. Possibly, because of the nature of innovation in other social science fields, continuation required little emphasis beyond the adoption stage. Or, perhaps as suggested earlier, the theories of change in the other fields had not evolved to a point where proper consideration was given to continuation. Whatever the reason, educators soon learned that something was wrong with the adopted theory for educational change. Blanke in 1966 wrote a position paper entitled "The Diffusion of Educational Innovations: A Continuing Frustration."
In this paper he addressed the fact that the gap between the production of new knowledge and the use of this knowledge continued to widen. He called for increased research at the organizational, individual and small group levels to confront this issue.

Havelock in 1973 attempted to give greater emphasis to continuation of the innovation once it was accepted by the client. In the final stage of his six-stage model, he addressed internalization. He set forth six important considerations in insuring continuance.

1. Continuing Reward
2. Practice and Routinization
3. Structural Integration into the System
4. Continuing Evaluation
5. Providing for Continuing Maintenance
6. Continuing Adaptation Capability (pp. 133 & 134)

This model was a step in the evolution of educational change theory away from change agent elitism and toward a client-oriented change theory.

The Research and Development Center for Teacher Education at the University of Texas at Austin has developed teacher-oriented diffusion models. The "Stages of Concern" and the "Levels of Use" models, the researcher believed, were a significant stride toward an appropriate theoretical base for the science of educational change diffusion. These models have strongly influenced the direction and the design of this study.
The Rand study of Federal Programs Supporting Educational Change focused on continuation of innovations and reflected a client orientation:

The project outcomes of interest to this study were: the effects of the project on classrooms, teachers, and students; the extent to which the project treatments were continued after the special project funding ended; and the amount of dissemination which took place. (Greenwood et al., 1975, p. VIII)

The study here reported was concerned more with the second and third Rand project outcomes than with the first. Though this study did attempt to deal with the effects of the innovation, there was not a comprehensive measurement of project effect on students and/or teachers. Rather, the measure of success was of administrators and teachers' perceptions of the continuation and spreading of the innovation three years after implementation.

The "extent to which the project treatments [were] continued after the special project funding ended; and the amount of dissemination which [had taken] place" were the dependent variables for this work. The measurement of perceptions of the effectiveness of the innovation was but a part of the measurement of continuation.

While this work shared some common elements with the Rand study, there were vast differences between the two. All of these differences and commonalities are not delineated. However, particular ones are important to understanding this work.

The Rand study was a much more comprehensive study being more of a macro orientation. The work here reported was micro in nature inasmuch as it was a study of specific attributes, independent
variables; and specific results, dependent variables; in a relatively small number of settings (Berman & McLaughlin, 1978, p. 4).

Averch et al. (1972) implied the need for studies of micro orientations by their statement regarding what large-scale program evaluations did not achieve.

In large program evaluations, across many individual projects, the basic question to be answered is, to what extent was the program successful in general? Thus, large-scale evaluations tend to lump together individually successful and unsuccessful projects to arrive at a general conclusion about program effectiveness. ...large program evaluations are seldom sufficiently detailed to explain why some projects succeeded while others failed. (p. 164)

Widmer (1975) pointed out further support for practice based, micro oriented studies.

The impressive abundance of research literature on planned change is often lacking in "what's really happening at the implementation level" and more concerned with "what ought to be going on" (Miles, 1974). (p. 1)

**The Significance of the Rand Study**

The Rand study was of particular interest to this work. The conclusions of Rand were quite critical of the results, and lack of same, of large amounts of federal money spent to bring change to America's elementary and secondary schools. Rand concluded that "return to the federal investment (ESEA Title III) was the adoption of many innovations, the successful implementation of few, and the long-run continuation of still fewer" (Berman & McLaughlin, 1978, p. 10).
In sum, our findings cast serious doubt on the efficacy of providing seed money to promote educational reform. It does stimulate school districts to adopt innovations. But it assures neither successful implementation nor long-run continuation, because these difficult and uncertain processes depend on the characteristics of school districts and the choices made by them. (Berman & McLaughlin, 1978, p. 12)

The author believed that the ESEA Title IV-C funded AGP, discussed in Chapter I, represented exceptions to the findings of the Rand study. The AGP contained elements and practices which Rand found to be supportive of change. Rand pointed out need for the building principal to give "moral support to the staff and '...to create...' an organizational climate that gives the project 'legitimacy'" (Berman & McLaughlin, 1978, p. 31). Adoption projects required the building principals' support prior to funding.

Rand reported, "the end of federal funding generally resulted in a reduction of resources" available for continuing the program (Berman & McLaughlin, 1978, p. vii). The AGP attempts to limit its innovative offerings to programs which require very limited funds to operate once they are in place. Programs requiring added staff positions are avoided. In the event a program is included which has significant continuation costs, these costs are made the responsibility of the school district during the implementation project year. Thus, boards of education either do not accept programs which they cannot afford to continue or they expend funds for on-going costs even while they have a grant.

Rand stated that, "teachers must clearly understand their project's goals and percepts" (Berman & McLaughlin, 1978, p. vii).
The AGP, through its awareness activities, attempts to make teachers aware of the goals of the program to be implemented. Teachers are an important part of the broad base of support required to receive an Adoption Grant.

Two of the research questions asked in this study asked if teachers' perceptions of and attitudes toward the program they were about to implement effected continuation of the program?

Packaged approaches typically were found by the Rand study to be too inflexible to permit necessary adaptation to meet local idiosyncracies (Berman & McLaughlin, 1978, p. 27). The AGP does not encourage adapting programs until they have been tried as they were developed and found to be effective. Nevertheless, Adoption does not utilize programmed learning or other rigid packaging. The inservice consultant emphasis of the Adoption package allows the latitude necessary to overcome the rigidity and, also, contributes to a "sense of ownership" (Berman & McLaughlin, 1978, p. 27). This sense of local ownership Rand found to be a positive correlate to adoption and continuation.

Another component of AGP which contributes to the sense of local ownership is the grant which supports the implementation project. Adoption Grants are awarded to consumer school districts. Rather than fund an agency to "lay a program on" teachers, principals and schools, Adoption funds flow to the school so that the local school hires the consultants and buys the materials, equipment, and supplies. These funding directions are subtly, but significantly, different when one considers, as did Rand, the sense of local ownership to be important.
The Rand study was a highly credible work, cited by many authors and researchers as a valid evaluation with logical conclusions. Because of the significance of the Rand study, the comparison of some of its findings with some of the aspects of the AGP was intended to bring a degree of credibility to Adoption. The AGP needs to be understood and viewed as a valid method of diffusing educational change. The variables considered in this work needed an acceptable framework within which to operate. Difficulty was inherent with this, a field-based data study. The Rand report provided necessary conceptual framework.

Problems Related to Change Research

Hall et al. (1975) recognized the difficulty of studying change. They attributed the difficulty, at least in part, to the different ways various people perceived and reacted to change. They concluded that "defining concepts and developing measurement procedures for assessing what is actually accomplished by change is difficult and challenging work" (p. 52). "Educational innovations and the user systems they interact with are much more complex than hybrid corn was in relation to the farmer" (Hall & Loucks, 1978a, p. 2).

Watson (1974) cited three causes of problems in change research:

The question..., what does research say about getting innovations into the schools? ...is an enormously difficult question for many reasons.

First, we have no generally agreed upon definition of innovation. Unique to the school, unique to the world?
Second, the question encompasses such consideration as whether the innovation was implemented, how it was implemented, who were the implementers and, more importantly, what if any objectives or goals were accomplished as a result of the innovation?

Third, one must ascertain if the innovation had, as its primary focus, people, programs or systems.

The problem of definition becomes more difficult when the views of those involved in the process of innovation are taken into consideration. (p. 143)

Berman et al. (1977) focused on the difficulty in measuring continuation of innovations:

It is no easy task to assess the continuing effect of an innovation. One difficulty that confounds attempts to apply aggregate measures to project outcomes is the "loose coupling" of school district activities: A decision at one level in the system may or may not have a significant influence on behavior at another level. For example, a district may announce its official decision to continue a project, but the extent to which teachers continue to use project methods and materials may be only incidentally related to that decision. Conversely, the district may drop a project, but classroom teachers may elect to continue some of its features on their own without formal district sanction, or even knowledge. Similarly, a central office decision to continue project operations at selected schools may be effectively meaningless if teachers respond with mere pro forma compliance. An assessment of the extent of continuation therefore must encompass the decisions and actions of both the district and the classroom teachers. (p. 185)

The majority of continued projects, in summary, represented either isolated or pro forma continuation. One other pattern occurred in our sample, however, in which project-related change became integrated into regular operations at both the district and classroom levels—that is, the projects were institutionalized in whole or in part. They shed their "special" status and replaced practices that existed before the project began. (p. 192)

Institutionalization, while being the ultimate in successful diffusion effort (Berman & McLaughlin, 1978, p. 19), can itself be problematic to researchers. In the course of implementing innovation,
adaptation takes place to accommodate the user to a point where the innovation is no longer easily detected. This transition of the innovation through implementation has lead practitioners and especially researchers and policymakers to the increased awareness that change is a process, not an event (Hall & Loucks, 1978, p. 4).

"Even when tested and developed in other sites, an educational innovation, unlike a new drug or a new variety of wheat, undergoes adaptation during implementation" (Berman & McLaughlin, 1978, p. 16).

Agarwala-Rogers et al. (1977) proposed the term re-invention to represent the "degree to which an innovation was changed in the process of implementation" (p. V).

The problem which re-invention presented to the researcher is made obvious by Emrick et al. (1977); "in one site that we observed, the re-invention process was so complete that the innovation had been renamed and the staff insisted that they were not now adopting the Developer's project, but had their own innovation" (p. 119).

Evans and Scheffler also focused on the innovation and how it was being implemented in their evaluation of Individually Prescribed Instruction (IPI) mathematics program. They learned that not only did the degree of implementation vary among schools, but there were category differences as well. Thus, what was implemented could not only be seen as how much of the innovation, but what parts and in what combinations (1974). (Hall & Loucks, 1978a, p. 14)
"To what extent can change facilitators and users adapt (or mutilate) an innovation before it is no longer the innovation?" asked Hall & Loucks (1978a, p. 28).

This question of amount of adaptation was addressed in the definition of adoption set forth in the "National Diffusion Network Policies" paper of January 31, 1979. This policy was presented at the 1979 winter conference of the NDN in San Antonio. "An adoption is the implementation of the key elements of a D/Ds program in a new setting."

The definition continues:

Adoption is also applied to the installation of a D/D program in which minor modifications, or adaptations of the key elements may be necessary to accommodate to the new setting, but which the Developer Demonstrator believes will not jeopardize chances for positive program results similar to those at the original site.

Adoption may also encompass the implementation of fewer than all of the key elements or grade levels when the adoption agreement* includes a specific phase-in plan to secure total adoption in a reasonable period of time, or when one or more of the key elements are already in place at the adoption site and functioning to the satisfaction of the D/D.

Terms such as "key elements" and "reasonable period of time" were open to interpretation. While this definition of adoption was useful, it too pointed out some of the difficulties inherent in the field of educational change. The difficulty of doing education change research brought the author to the same three questions addressed by Berman et al. (1977):

*The adoption agreement is a formal document signed by both the D/D and a school official which states that both parties will work to implement the respective program in the school.
1. What does the continuation of specially-funded projects mean and how should this process be assessed?

2. What influences the nature and extent of continuation at the classroom level?

3. How do districts deal with change agent projects at the end of federal funding and how do their actions affect the long-term fate of the projects? (p. 184)

These questions assisted the researcher to design this study just as they served the Rand Corporation researchers to design their study. One might assume that this common base would have resulted in similar studies. The fact that the two studies were considerably different was in part due to the different levels of focus of the two works. These macro-micro orientations have been mentioned earlier in this chapter.

What did the continuation of specially-funded projects mean and how was this process assessed? This question was addressed through the instrument, "Continuation of the Teacher Self-Evaluation Adaptation Program" (Appendix). With this instrument various levels of continuation were measured. Specific equipment utilization was identified as necessary for various levels of continuation. Certain teacher behaviors were identified as necessary for various levels of continuation. Identification of which teachers were using the program and what school policy was present to control this use was another measure of continuation included in said instrument. This definition was not unlike that of Rand. "We defined outcomes that would be relevant to the analysis of continuation—namely, continued teacher use of project methods and materials after the end of federal funding...and the district continuation decisions and strategies" (Berman & McLaughlin, 1978, p. 7).
What influenced the nature and extent of continuation at the classroom level? The researcher hypothesized that the attitudes of the teacher and building principal project participants were influential in the nature and the extent of the continuation at the classroom level. The attitudes referred to were the perceptions which the participants had of the innovation—what worth the participants saw in the program about to be implemented. No claim was made that such attitudes were the sole cause for continuing or not continuing the program. But, rather, the researcher believed that said attitudes were influential to continuation.

The measurements made by the researcher in 1976 of teachers and principals' perceptions were the measures of this independent variable. Measurements of teachers and principals' perceptions were made, first, before they received program inservice training and, secondly, immediately following inservice training. The researcher was interested in comparing these two measures. If significant change occurred from pre-inservice training to post-inservice training, need for intervention would be indicated. Significant change of said attitudes would call for further investigation especially if the change was from a positive attitude to a negative one.

The other research questions indicated characteristics which were observable prior to program implementation. The researcher was interested in learning if any or all of these characteristics were indicators of success. The size of the school district may be a determinant of success. Grade level taught by participants, percentages of district teachers participating in the project, and the
district's history of involvement in developing and/or implementing change could be indicators of success but they were unlikely to be causes. Independent variables need not be causes in order to be indicators. They could be indicators of success if they were related to variables which were causes of success. The distinction between causes of success and merely indicators of success needs no further discussion here as this study did not attempt to establish cause and effect relationships.

This study was an effort to find correlations between characteristics measurable prior to program implementation and levels of success as defined earlier. Desirable as a cause-effect study might have been, the state of the art of educational change research did not warrant such a study. The difficulties inherent in educational change research discussed earlier supported this position. There were other factors which the researcher believed were inhibitors to a cause-effect study; these factors are discussed later in this chapter.

How did districts deal with change agent projects at the end of federal funding and how did their actions affect the long-term fate of the projects? The study did not attempt to answer this question per se. The importance of this question to the work was that it brought focus to the dependent variables. That is to say, districts did, in fact, do something with the innovations at the end of the federal funding. What the districts did with their innovative programs (the Teacher Self-Evaluation Process) was considered in designing the
Continuation of the Teacher Self-Evaluation Adaptation Program instrument. Definition of success and success levels were a result of consideration of this question.

How did districts' actions affect the long-term fate of the project is addressed by virtue of the fact that this was a three-year longitudinal research design. Three years, while not considered long-term for some types of studies, was appropriate for this work.

Our research suggests that any significant or new project in school districts takes about two years to get off the ground, another two years to be fully implemented, and one or two years more to produce a stable effect on student outcomes. (Berman & McLaughlin, 1978, p. 35)

This timeline would indicate that three years was not sufficient to qualify as long-term, if one did not consider that the innovation observed in this study was fully developed and was "off the ground" before the three years commenced.

Agarwala-Rogers & Rogers (1976) supported the need for longitudinal studies in the social sciences.

There are more appropriate research methods for studying the process aspects of diffusion: For example, field experiments, longitudinal panel studies.... Such approaches rest on the necessity of gathering data from the same (or similar) respondents at several points in time. One of the few organizational innovativeness studies to gather data at even two points in time was Hage and Dewar (1973). ("Elite Values Versus Organizational Structure in Predicting Innovation," Administrative Science Quarterly, 18: 279-90). (p. 177)

Averch et al. (1972) stated that, "there is considerable evidence that many of the short-run gains from educational interventions fade away after two or three years" (p. 151). Etzioni (1972) acknowledged that social change does not come easily: "The contention that personal growth and societal changes are much harder to come by
than we had assumed especially via one version or another of the educational-enlightenment approach, is not a joyful message, but one whose full implications we must learn to accept before we can devise more effective social programs" (p. 47).

**Difficulty of Bringing Change to Education**

Watson (1971) attempted to explain why social change is difficult. He looked to the users of innovations, those effected by change, as the barrier.

A further obstacle to effective participation in social change is the tendency to seek security in the past. The golden age of childhood is a Paradise Lost. When life grows difficult and frustrating, individuals think with nostalgia about the happy days of the past.

The irony is that this frustration-regression sequence enters life at just the time when change would be most constructive. When old ways no longer produce the desired outcome, the sensible recourse would be to experiment with new approaches. But individuals are apt at such a time to cling even more desperately to the old and unproductive behavior patterns. They are dissatisfied with the situation; but the prospect of change arouses even more anxiety, so they seek somehow to find a road back to the old and (as they now see it) more peaceful way of life.

Demands for change in school organization and practice become acute as a result of such social changes as automation, rapid travel to other lands, or racial desegregation. The reaction of insecure teachers, administrators, and parents is, too often, to try to hold fast to the familiar or even to return to some tried-and-true fundamentals which typify the schools of the past. (p. 755)

Zaltman et al. (1977) also focused on teachers as the inhibitors of change.

The standardization of teachers' coping behavior and the socialization of the new teacher to performance routines severely handicap school systems in their attempts to
attract and hold intelligent, open, flexible, creative people, and thus there are disproportionately few practitioners with the very qualities needed to reform and improve the profession in ways that would render it attractive to those persons. A negative cycle emerges. (p. 7)

Somewhat related to these teacher characteristics was the insecurity discussed in Chapter I which Lippitt (1974) believed was common among teachers, especially elementary school teachers. Lippitt contended that low status caused low self-esteem, which in turn caused insecurity when opportunities to experiment avail themselves.

Egon Guba, a prominent change theorist, recognized the significance of giving consideration to the persons expected to accept change. When he moved into a practitioner's role, that of administrator of a bureau of educational research and service, he discovered that change did not occur as he had theorized it did. He came to realize that "most of my problems are being generated by people." He concluded, "People are no damn good!" (Guba, 1968, p. 38). Something of a strong statement and obviously overstated by Dr. Guba to make his point.

Guba asked, "Why was I having so much trouble applying the ideas that I had myself helped to formulate?"

"The answer to the...question was some years coming..." writes Guba:

1. There is a tremendous gap between knowledge production and knowledge utilization that cannot be spanned either by the producer or by the utilizer himself, or even by these two acting in concert, at least in the typical situation. New mechanisms and agencies using special techniques are required to perform this bridging or linking function.
2. Knowledge is at best only one of a number of input factors in any practical situation. No practical problem can be solved using knowledge alone—a whole host of economic, social, political, motivational, cultural, and other factors must be considered. (Guba, 1968, pp. 38 & 39)

Theorists have overlooked the Individual

Pincus' (1973) work, Incentives for Innovation in the Public Schools, acknowledged that change does not get implemented in schools according to theory of institutions, systems, bureaucracies, groups, etc. This acknowledgement led the author to consider that perhaps some theorists overlooked the fact that individual people make up these entities. Some theorists would lead us to believe that a group has a soul, values, needs, etc.; phenomena which belong to individual people. What apparently has occurred is that social theorists have lost touch with the fact that models are not reality, but are communication tools. They have come to accept that because a model explains one social phenomena the model becomes truth for all related phenomena.

Zaltman et al. (1977) pointed out that "system or organizational models of change often neglect the critical human variables" (p. 52). They cited Bennis (1966) who said that RD&D models were "technocratic" change phenomena--one of the examples of noncollaborative approaches to change. They were noncollaborative because the goal-setting phase of the development process did not involve potential consumers of the innovations (p. 68). Bennis, perhaps, was not discussing the dangers of modeling but he gave an example of a model which has, in the author's opinion, been applied in education far beyond its purpose of communication. Developed to serve the military-industrial complex, it has been applied to the social sciences
differently than the military-industrial complex without appropriate modifications. The RD&D model has been misused in efforts to communicate entities and interactions different than those which it was designed to explain. For example, RD&D model implies that needs addressed by researchers are the same needs which utilizers of knowledge are addressing. The tangible needs addressed by researchers and users of knowledge in the military-industrial complex are more easily defined and agreed upon than are needs in education. In the education discipline, needs are intangible; they are many, overlapping, ill-defined and vague. The researcher believes that the RD&D model is too simplistic to deal with the subtleties and intricacies of education.

The Rand study concluded that:

We believe that federal officials should set aside the largely ineffective RD&D point of view. Instead, they might consider an approach that assumes school districts are ultimately responsible for improving their own performance but require both short- and long-run aid to achieve this end. (Berman & McLaughlin, 1978, p. IX)

Perhaps the RD&D model should not be set aside, but the researcher believes that it does need considerable re-evaluation and revision before it can serve education.

When change theorists have addressed the individual as a component of the change process, they too often have, in the perception of the researcher, misperceived the individual. Individuals have been seen as being passive commodities on which to bring change.

People were assigned labels such as "early adopters" and "laggards" (Rogers, 1962). They have been seen as components of systems and models which have habits consistent with the norms of the
institution. "The classroom teacher was not an independent professional,...(but) instead one member of the staff of a stable institution" (Brickell, 1964, p. 502).

There was an air of elitism sensed by the researcher as he read the six conditions Wolf (circa 1975) argued are operating within an educational setting targeted for a change effort:

1. The positive and negative prior states of the selected target audience;
2. The extent of prior involvement of the target audience in positive innovation adoption activity;
3. The position and status of involved members of a target audience;
4. The amount of effort invested to identify--then utilize--optimum methods for diffusing specific innovations to the target audience;
5. The acquisition of needs assessment information;
6. The ability of individuals who are initial recipients of a diffusion undertaking, to successfully sustain the momentum of such an effort by extending it to the practice of less innovative members of their group. (pp. 32-33)

The underlying assumption leading to such perceptions of human beings may be the same erroneous assumption Schiffer believed underlies many would-be staff-development programs. The assumption was:

If it can be demonstrated to teachers that an innovation is in line with school needs or that it is clearly superior to methods they are presently using, they will embrace it without reservation and assiduously set themselves to the task of acquiring the competencies needed to implement it. This "rational assumption" underestimates the degree to which individuals' values, self-interest, previous experiences, expectations, aspirations, needs, and personality traits influence their acceptance or rejection of an idea, as well as their ability to use it. (1978, pp. 6 and 7)
Support for This Study

In the researcher's point of view, there is need for more micro studies in which individual innovation users (or potential users) are perceived as human beings with idiosyncratic "values, self-interests, previous experiences, expectations, aspirations, needs, and personality traits." These clients, as Havelock (1973, p. 43) and others referred to people whom the change agent intends to change, need to be perceived by researchers as individual decision-makers, as action-oriented and as persons who do not fit anyone else's mold. As such micro studies are brought together in an inductive manner, understanding may begin to emerge. Models and systems can then be redesigned and macro studies can be reassessed to provide the needed theoretical base for educational change.

Allan Burns (1975) in his anthropological study of an educational change emphasized the value of focusing on individuals in a single school district over time. Such study revealed phenomena which are lost to macro studies and theoretical models.

Fuller brought a similar focus to the study of change to that of Burns. Fuller's position was expressed in "Concerns of Teachers: A Developmental Conceptualization," an article which appeared in the American Educational Research Journal in March of 1969a. The Research and Development Center for Teacher Education at the University of Texas, Austin has been very active in what might be called persons-oriented change research.
The focus of The...Procedures for Adopting Educational Innovations (PAEI) Project is on researching the highly personal experiences and phenomena encountered by individual educators in schools and colleges as they "adopt" educational innovations. (Hall & Rutherford, 1975, p. 228)

This focus has evolved into a Concerns-Based Adoption Model (CBAM). CBAM is an example of an inductively-created model.

Based on research literature, the extensive field experiences of adoption agents, and the research of Frances Fuller (1969b), seven different stages of Concern About the Innovation were tentatively identified and defined. (Hall & Rutherford, 1975, p. 228)

"In CBAM, the individual and the innovation are the frame of reference from which the change process is described" (Hall & Loucks, 1978a, p. 8).

Rogers & Shoemaker (1971, p. 39) set forth five attributes of innovations as perceived by users which they have found to correlate with the likelihood of successful adoption:

1. Relative Advantage - Degree to which a new idea or practice is perceived as being better than the idea it supersedes;

2. Compatibility - Degree to which a new idea or practice is perceived as consistent with existing values, past experiences, and needs of the adopting unit;

3. Complexity - Degree to which a new idea or practice is perceived as relatively difficult to understand and use (negatively related);

4. Trialability - Degree to which an innovation may be experimented with on a limited basis;

5. Observability - Degree to which the results of an innovation are easily observed and communicable to potential adopters.
Such attention given to perceptions held by users should lead to more valid research.

Few groups have as many innovations or pseudo-innovations presented to them with as little hard evidence about their effectiveness as do educators.

Resistance is, in fact, a healthy phenomenon.... For educational change planners, recognizing and dealing with opposition is not a matter of choice, preference, or personal aesthetics. The chances of achieving intended outcomes become near zero when the sources of opposition are not faced. (Sarason, 1971, p. 59)

The researcher wanted to determine if there was correlation between certain independent variables and likelihood of successful implementation and continuation of innovations. Among these variables, discussed earlier, were the attitudes which the project participants, teachers, and building principals had toward the innovation prior to its implementation.

This study was of the nature which Pellegrin, Clemen and Emrick stated is needed. They said:

The knowledge base is weak with regard to innovation in other types of institutional organizational settings. Even minor changes in schools are achieved with great difficulty.... It is hoped that additional research in real-life settings will identify factors that facilitate the implementation process. (Pellegrin, 1975, p. 100)

All efforts to improve dissemination capacities in educational organizations and agencies will be relatively unsuccessful unless there is a corresponding skill in actually making use of knowledge in decision-making and problem-solving among teachers, administrators, and other education groups. (Clemen, 1976, p. 4)
The implementation process is gradual and cumulative... and a realistic estimate of the time required for full-scale implementation is two years.... Although many adoptions expand to include additional project components and new staff in the second year, the increasing sense of "local ownership" leads to difficulties in using self-report methods to document the diffusion and implementation process. Further study of these phenomena is needed. (Emrick, 1977, p. 135)

Hall & Loucks (1978b) were, in the opinion of the researcher, on target when they said:

The individual must be the primary target of interventions designed to facilitate change in the classroom. Other approaches to change (e.g., Organizational Development) view the composite institution as the primary unit of intervention, and place their emphasis upon improving communication and other organizational norms and behaviors.

Change is a highly personal experience. Staff developers, administrators, and other change facilitators often attend closely to the trappings and technology of the innovation and ignore the perceptions and feelings of the people experiencing the change process. (p. 38)
CHAPTER III

METHODOLOGY

"No simple or sure way can be found to effect educational change and have it persist. Nor is any single factor the answer to successful innovation, whether it be money, a new technique, or a change in personnel" (Berman & McLaughlin, 1978, p. 22). And, certainly, researchers should not be unduly optimistic about finding simple answers to complex issues. However, such cautions should not be interpreted as discouragement for research. The field of educational innovation diffusion is relatively new. A great deal of research is needed to bring a more scientific stature to this field.

In Chapter II was discussed the need for more field-based, micro level studies. Such studies will contribute to an inductive approach to build the needed theoretical base for understanding and working in and with educational innovation diffusion.

The purpose of this work was to search for indicators--independent variables--which might serve to predict levels of continuation of an innovative program beyond implementation funding. As explained in Chapter I, such indicators read (observed) prior to expenditure of resources could prevent waste of time and effort and enhance fiscal credibility. This work can also be valuable as it identifies need and points direction for future work in educational innovation diffusion.
The questions confronted in this study were related to levels of successful continuation of educational innovative programs beyond implementation funding. In Chapter II was presented some of the criticism which has been recently brought to federally-funded educational change. Much of this criticism was directed at the small extent to which federally-funded programs have been spread to other schools after the programs are developed. Greenwood (1975) agreed that if an innovation is successful, it is assumed that the district will continue part or all of it using some other source of funds and it will be disseminated to other districts which are interested in replicating it (p. V).

But the Rand study found that other districts having need for the newly-developed programs did not, for one reason or another, receive them. Often, even in those districts where programs were developed, the innovations were not continued. As cited earlier, "the net return to the federal investment was the adoption of many innovations, the successful implementation of few, and the long-run continuation of still fewer" (Berman & McLaughlin, 1978, p. VI).

The researcher's reasoning led him to conclude that continuation of program implementations was an acceptable definition of success for a diffusion effort. Discussion of levels of continuation and related measurement will be discussed later in this chapter.

Research Design

The Research Design Model. This study had longitudinal perspective inasmuch as it incorporated pre- and post observations with a
three-year interval between the two. However, it is more accurately called an *ex post facto* study than it is a longitudinal study. A longitudinal study implies that independent variables are manipulated and observations made of subsequent results over an extensive period of time. This work is *ex post facto* in that observations are made after a period of time, looking for relationships to observations made three years ago (Kerlinger, 1973, Chapter 22). While the difference between the longitudinal and the *ex post facto* studies may appear subtle, the significance is that independent variables in *ex post facto* research cannot be manipulated. Kerlinger does not consider *ex post facto* research to be experimental research. This is not to say that he denies the value of the *ex post facto*, for he recognizes that this is the only type of research which can be done in some fields, including education.

*It can be said that *ex post facto* research is more important than experimental research (because) most important social scientific and educational research problems do not lend themselves to experimentation, although many of them do lend themselves to controlled inquiry of the *ex post facto* kind.* (p. 392)

**The Research Questions.** The research questions discussed earlier are listed here for the convenience of the reader:

a. Does size of school district student enrollment correlate with level of successful continuation?

b. Does grade level of implementation, i.e., elementary or secondary, correlate to level of successful continuation?

c. Does percentage of building staff participating in the implementation project correlate to level of successful continuation?
d. Does percentage of district staff participation in the implementation project correlate to level of successful continuation?

e. Does district's history of involvement in development and/or implementation of innovations correlate to its level of successful continuation?

f. Do teacher participant perceptions of the innovation prior to inservice training correlate to level of successful continuation?

g. Do building principal participant perceptions of the innovation prior to inservice training correlate to level of successful continuation?

h. Do teacher participant perceptions of the innovation following inservice training but prior to implementation correlate to level of successful continuation?

i. Do building principal participant perceptions of the innovation following inservice training but prior to implementation correlate to level of successful continuation?

The research design had four observations interspaced by three treatments:

\[0_1 \rightarrow x_1 \rightarrow 0_2 \rightarrow x_2 \rightarrow 0_3 \rightarrow x_3 \rightarrow 0_4\]

Observation \(0_1\) consisted of the independent variables set forth in research questions a, b, c, d, and e. These are independent variables, which were observable prior to any implementation activities.
Treatment $X_1$ was the awareness that was provided to school personnel to alert them to the intent, activities, and the availability of the educational program and the accompanying implementation project.

Observation $O_2$ consisted of the independent variables set forth in research questions f and g. These were variables identifiable following $X_1$ and prior to project inservice training $X_2$.

Observation $O_3$ was accomplished by similar methods used for $O_2$. $O_3$ was comprised of independent variables h and i.

Treatment $X_3$ was the three-year time span, which passed between $O_3$ and $O_4$. The time probably did not constitute a treatment. However, many events occurred within this period, and these events individually and totally constituted a treatment. However, these events cannot be identified or controlled. The related question being asked was, "Did the program survive three years of trial?" Thus, $X_3$ was identified as the three-year time span from the beginning of school year 1976-77 to the end of school year 1978-79.

The final observation, $O_4$, was the measure of success of the implementation effort, described above as level of program continuation.

Considering the several factors of observation discussed above, the research design can be visualized as follows:
The research questions were addressed by observations $O_{1a}$ through $O_{3i}$ identified in the research design model above. The sub-letters, $a$ through $i$, refer to the research questions, $a$ through $i$, respectively.

**Discussion of Research Design Elements.** Following is a discussion of the elements of the research design model. The discussion of the elements follows the model design from left to right. Observations $O_{1a}$ through $O_{1e}$ are addressed in the first portion of this discussion. Treatment $X_1$, awareness activities, are next and so on in sequence.

*Observation $O_{1a}$ - Size of school District.* The student enrollment figures used to establish sizes of school districts are
those provided by the Division of Computer Services, Ohio Department of Education. They are average daily memberships as reported by building principals in October 1976.

Observation 0_{1b} - Grade Level. Data relevant to this research question were available only from districts which responded to the 0_4 measurement. Six responding districts implemented only at the elementary school level. Sixteen schools, including eight joint vocational schools, implemented only at the secondary level. Nineteen districts implemented the program at both the elementary and the secondary school levels. Eight vocational schools were considered with the 16 secondary schools for they encompass grades 11 and 12. Due to the somewhat different nature of the vocational schools, they were looked at separately as well.

Observation 0_{1c} - Percentage of building staff Participating. The N available for this portion of the study was more restricted than for the research question related to elementary and secondary school implementations. The researcher could ascertain number of staff persons per building for only those districts which implemented at either elementary or secondary school level, and which had but one such building in the district. Building staff number was necessary to calculate this percentage. From these districts which responded to the 0_4 measurement, sixteen were available. Inclusion of this statistic in the final analysis is in doubt.

Observation 0_{1d} - Percentage of district staff Participating. Because of constraints on funds and trainers available at time of implementation, a district was limited to thirty applicants regardless
of district size. This limitation reduced the variance of the numbers of participants which likely would have occurred without such restrictions, i.e., large school districts would have had proportionately large numbers of participants. Consequently, with somewhat constant numbers of participants, these district staff participant percentages were inversely correlated to the district size. Thus, if a correlation was observed between the district staff participant percentage and levels of success, there likely would be an inverse correlation between district size and levels of success. Strong correlations of any pattern different from this would have been especially interesting to the researcher.

Observation 0.1e - District's history of Innovativeness.

The measure of innovativeness used for this portion of the study was district involvement previous to school year 1976-77 with ESEA Title IV-C (Title III) funding. Districts were put into one of three categories related to the amount of such money received for conducting innovative practices: (1) districts receiving no such funds, (2) districts receiving up to and including $25,000, and (3) districts receiving over $25,000. This categorization has been used by the Division of Planning and Evaluation to distinguish levels of district innovativeness. Because these categories have served this identification satisfactorily, like categories were chosen for this study.

Treatment X.1 - Awareness Activities. The awareness activities conducted as part of the AGP were discussed in Chapter I. While these activities were available to all school districts on an equitable basis, i.e., all districts were sent the same mailings and all
districts were invited to attend like awareness conferences, differences of awareness consumption varied greatly from school district to school district.

The fact that awareness conferences were held at a limited number of sites created an inequity in that personnel from some districts had greater distances to travel than did others. Other variables, such as districts' fiscal ability to free people to attend awareness conferences and districts' knowledge of needs for change, were sources of inequity.

Awareness was viewed by the researcher as a variable which was controlled by the design of the research model. No comparisons were made between observations $O_1$ and $O_2$. Nor were the independent variables addressed by observations $O_{1a}$ through $O_{1e}$ thought by the researcher to be effected by $X_1$ in any way that would effect successful continuation of the innovation.

Observations $O_{2f}$ and $O_{2g}$ - Teacher and building principal perceptions prior to inservice Training. This first of two observations of teachers and principals' perceptions was executed as early as possible. Inasmuch as the study was an effort to identify predictors of program continuation, the researcher was interested in looking for early predictors. The sooner information can be gathered about the success of an implementation effort, the better the effort can be served.

Treatment $X_2$ - Implementation project inservice Training.
The inservice training was intended to be consistent with all projects. Six different trainers were used. To reduce trainer bias, the trainers
received preparation from the same individual. As discussed in Chapter 1, this particular program had been implemented in school years 1974-75 and in 1975-76. The researcher believed that, due to this previous experience by the trainers, a high level of consistency existed among the project district training sessions. The project training activities followed the same format and the time schedule for training was the same for each district project.

Observations $O_{3h}$ and $O_{3i}$ - Teacher and building principal perceptions following inservice Training. The purpose for this second observation of the perceptions of the implementation projects' perceptions was to enhance the value of this study. Diffusion is a process, not an event (Hall & Loucks, 1978, p. 4). The process of diffusion can be improved as research efforts identify points in the process continuum where further study and/or intervention in the diffusion process are appropriate.

Comparisons were made between $O_{2f}$, teachers' perceptions prior to inservice training, and $O_{3h}$, teachers' perceptions following inservice training ($O_{2f} \rightarrow O_{3h}$); and comparisons between $O_{2g}$, principals' perceptions prior to inservice training and $O_{3i}$, principals' perceptions following inservice training ($O_{2g} \rightarrow O_{3i}$).

Inasmuch as these $O_2$ and $O_3$ observations were of perceptions which participants hold of the innovation, there was not strong rationale to suggest that change would take place between the two observations. If the measurements were of participants' knowledge of the program, then considerable increase would have been expected
between the two measures. If perceptions were found to change, then, as mentioned in Chapter I, notice would be taken and analysis would be called for.

Comparisons between $O_{2f}$ and $O_{3h}$ and between $O_{2g}$ and $O_{3i}$ were made. If significant difference had existed between $O_{2f}$ and $O_{3h}$, then significant difference between $O_{2f} \rightarrow O_4$ and $O_{3h} \rightarrow O_4$ would likely exist. Similarly, differences between $O_{2g} \rightarrow O_4$ and $O_{3i} \rightarrow O_4$ could be expected to relate to significant differences between $O_{2g}$ and $O_{3i}$.

If consistently large and consistently directional, i.e., negative or positive change occurred between $O_2$ and $O_3$ measures, then statistical analysis would have been made between $O_2 \rightarrow O_4$ and $O_3 \rightarrow O_4$ measures.

Treatment $X_3$ - The three years between the time of the $O_3$ measurement, fall of 1976, and $O_4$ measurement of successful continuation, spring of 1979. This treatment of time was discussed earlier as part of the discussion of ex post facto research. Mention of the significance which this time lapse contributed to this study was discussed in the literature review, Chapter II. Little more needs to be said regarding treatment $X_3$. However, one point of clarification needs to be made.

The time between the $O_3$ and $O_4$ observations has been referred to in the earlier chapters as the three years between implementation and the continuation measurements made in the spring of 1979. Concern with this claim might be justified since the entire school year of 1976-77 was considered as having been the implementation period. If
the end of the implementation project period, June 30, 1977, was ac-
cepted as the completion of implementation, then only two years lapsed
between implementation and continuation measurement.

The researcher took the position that teacher and principal
participants implemented the program in the fall of 1976 when they
received the inservice training. From that point on they were con-
ducting the program--using the innovation--even though the period was
called implementation year. Thus, the program was in place for three
school years. The researcher believed that there was justification
for referring to the time lapsed between \( O_3 \) and \( O_4 \) as the three years
since implementation.

Observation \( O_4 \) - Successful continuation of the Innovation.

Rationale for utilizing continued-use-of-the-innovation as the identi-
fier of success for this study was presented earlier in this chapter.
The section on instrumentation, which follows, will explain details
regarding levels of success and \( O_4 \) observation.

Instrumentation

The measurement instruments for this study were created
specifically for this purpose by the researcher. The instruments for
observations \( O_2 \) and \( O_4 \) were refereed by judges. The judges included:
(1) an authority on writing sociometric and psychometric items and
preparation of such instruments, (2) an authority in nonverbal communi-
cation who served as consultant to the innovative program during its
development, (3) the director of the project which developed this
innovative program, the Teacher Self-Evaluation Process, and (4) an
authority in linguistics. Suggestions from these judges were utilized by the researcher in preparing the instruments and in interpreting the data collected by the instruments. The refereeing technique was utilized to validate the instruments. No statistical validation of items or instruments was considered necessary by the researcher.

The instruments for measurement of $O_{3h}$ and $O_{3i}$ were rearrangements of the items of the $O_{2f}$ and $O_{2g}$ instruments, respectively. Sequence and grouping of items was not believed by the researcher to effect the validity of the $O_2$ and $O_3$ instruments. Inasmuch as the $O_3$ form did not constitute a different instrument from the $O_2$ form, the validity of the instrument was accounted for by the refereeing mentioned above.

Reliability studies were made of the $O_2$ and $O_3$ instruments. They are discussed in Chapter IV. These levels of reliability are considered as strengths and/or constraints in the analysis of the data collected by the instruments.

Measurements of Participants' Perceptions, $O_2$ and $O_3$. The instruments (Appendix) used to measure the participant teachers' perceptions and the participant building principals' perceptions each consisted of twenty-five items. Each item utilized a Likert scale (1 to 5) to capture the responses from "strongly disagree" (1) to "strongly agree" (5).

The individual items of each instrument measured perceptions related to three factors. The Teacher Participants' Perceptions of the "Teacher Self-Evaluation Process" Adaptation project instrument had
(1) items referring to how the teachers believed the innovation would enhance their instruction (teacher instruct), (2) items referring to how the teachers believed the innovation would enhance their relationships with other people (teacher relate), and (3) items referring to how the teachers believed the innovation would effect them personally (teacher personal).

The Principal Participants' Perceptions of the "Teacher Self-Evaluation Process" Adaptation project instrument was designed to measure how principals believed the innovation would effect (1) teachers' instruction (principal instruct), (2) teachers' relationships with others (principal relate), and (3) teachers' personal concerns and personal growth (principal personal). Thus, while the teacher perception instrument and the principal perception instrument are different instruments, they are parallel in design and measured similar phenomena, though from different perspectives.

Measurement of Successful Continuation. Loucks, Newlove & Hall recognized the difficulty of determining continuation of innovations. "It became increasingly obvious there was more to determining whether the innovation was in use. There was variation in the components that had to be documented as well" (Hall & Loucks, 1978, p. 14). Pursuit of this concern lead these researchers to pose three questions which they found to be "most" useful:
1. What would you observe when the innovation is operational?

2. What would people be doing?

3. What are the critical components of the innovation?  (p. 17)

These three questions were helpful to the researcher in his construction of the instrument for measuring success. The "Teacher Self-Evaluation Process" program lent itself easily to addressing these questions. Program activities were quite unique and thus easy to observe. Critical components were quite easily quantified.

**Measurement of Successful Continuation.** The instrument, "Continuation of the Teacher Self-Evaluation Adaptation Program" (Appendix), was intended to measure the nature and extent of continuation of the innovation. The instrument was designed to measure four levels of continuation here described.

**No success** (no continuation)

"No" response to items number 1, 4, 7 and 8, or 11 and 12.

**Minimum success** (less participation than initially implemented)

"Yes" responses to items number 1, 4, 7 or 8, and 11 or 12, plus a mean score of 3.0 or higher on items 15 through 20.

**Moderate success** (participating at approximately the level at which the program was implemented with some positive results perceived)

"Yes" answers as required for minimum success, as explained above, plus "Yes" responses to items number 5 and/or 6, 8, 9 or 10, and a mean score of 3.5 or higher on items 15 through 20.
High success (significant increase in the amount of participation since implementation and a considerable amount of positive results perceived)

"Yes" responses to items number 1, 2, 3, 5, 6, 9 or 10, and 11 or 12, and a mean score of 4.0 or higher on items 15 through 20.

The Teacher Self-Evaluation (TSE) program is in part dependent on use of certain items of television equipment. Unless a teacher can be videotaped, using a video camera and videotape recorder, and unless the teacher can view the recorded classroom presentation over a television monitor, the program is not being used. Item one of the Continuation instrument measures whether at least these minimum pieces of equipment were being utilized. A "no" response indicates no program continuation.

If the program is being continued, teachers must participate in certain activities as designed in the program and as stated in the Continuation instrument.

Continuation of the TSE program requires that teachers (a) be videotaped in teaching situations, (b) review and analyze the video recordings, (c) set objectives on which to concentrate, (d) work on objective(s) for approximately one month, (3) be revideotaped, and (f) analyze these video recordings to determine if objectives have been met. (see Appendix)

Item four of the instrument measured whether at least these activities were part of the process as it was being continued. A "no" response indicated no continuation of the program.

Responses to items seven and eight determined whether original participants and/or others than original participants were using the program. "No" answers to both of these items indicated no continuation.
Responses to items eleven and twelve determined whether original participant buildings and/or additional buildings were utilizing the program. "No" answers to both of these items indicated no continuation.

Particular answers to items 2, 3, 5, 6, 9 and 10 were used in determining moderate success and high success levels as explained above. Items 15 through 20 indicated the nature of the continuation. These items relate to perceptions of the effects of the program continuation. The Likert scale was used to define levels of perceived effectiveness. These levels of success are complementary measures to the measures of continuation success. These effectiveness measures were seen by the researcher as measures of the nature of the innovation.

Items thirteen and fourteen of the O₄ instrument, not mentioned in numerical sequence, were not intended as part of the measure of effectiveness. These two items were included for the purpose of determining the grade level--elementary and/or secondary school-- implementations. This measure referred to research question b discussed earlier in this chapter.
Statistical Analysis

Responses. In Table 1, on the following pages, is data related to the districts' responses to the various measurements—$O_2$, $O_3$, and $O_4$.

$O_2$ was a measure of participants' perceptions of the innovation prior to inservice training; $O_3$ was a measure of participants' perceptions of the innovation following the inservice training. These two measures were made in the summer and fall of 1976. The $O_4$ measure was made in the spring of 1979. This was a measure of success of program continuation as described earlier.

The first column of Table 1 contains numerals which represent the 54 participating districts. Columns (2) through (7) set forth the number of teachers and principals who responded to $O_2$ only, $O_3$ only, or $O_2$ and $O_3$. 
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Response to Instruments $O_2$, $O_3$, and $O_4$

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Superintendents of the fifty-four project districts were requested to distribute two $O_4$ instruments so that a former participant responded to one and a nonparticipant of the 1976-77 implementation project responded to the second.

Columns (8), (9), and (10) show the number of responses to the $O_4$ measurement according to former participation. Some responders did not indicate their former participation-nonparticipation status. These appear in column labeled "unknowns."

Forty-three districts submitted some responses to both $O_2$ and $O_3$ measures. Nine districts submitted responses to $O_2$ measurements only and one district submitted $O_3$ measurements only. One district submitted neither $O_2$ or $O_3$ measurements.

$O_4$ responses were acquired from forty-seven districts. Forty-two of these districts returned either one or two of the $O_4$ instruments which had been sent to the district superintendents. To acquire data to ascertain if bias was present in the nonresponse segment of the district population, a random sample of the nonresponding districts were interviewed by telephone. The "T" symbols in columns (8) and (9) identify five districts which were so interviewed.

Twenty-five districts returned two responses and seventeen districts returned one response. Seven districts did not return $O_4$ responses and were not interviewed by telephone. Two districts which did not respond to either $O_2$ or $O_3$ measurements did return $O_4$ measurements. Since these measurements were not of use in comparison to $O_2$ and $O_3$ measures, they were excluded from consideration in the final analysis.
Three responses were received without indication from which district they came. These responses were not represented in Table 1 for obvious reasons.

Tests for significant differences were applied to data from a random sample of nonresponding districts and to data from responding districts to ascertain if bias was present. If such bias had been found, the $0_4$ statistic would have had to been considered within the constraints of this bias. Since such bias was not found, the responding population data could be treated as representative of the total population.

Many variables influence the level of successful continuation of an innovation. This study is an attempt to learn of the predictability of some of these variables. Multivariate statistical methods mirror actual complexity of behavioral reality (Kerlinger, 1973, p. 602). Thus, logic dictates to the researcher that a multivariate method--multiple regression analysis, multivariate analysis, canonical correlation, discriminant analysis or factor analysis--be used as the analytical method for this work.

This research is designed to consider four levels of success; i.e., (0) no continuation, (1) minimum continuation, (2) moderate continuation, and (3) high continuation of the innovative program. Inasmuch as these levels of success are classifications and not interval measures, the discriminant analysis is appropriate. The other parametric tests require that the scores result from measurement in the strength of at least an interval scale (Siegel, 1956, p. 31).
The mathematical objective of discriminant analysis is to weight and linearly combine the discriminating variables so that the groups are forced to be as statistically distinct as possible (Nie et al., 1975, p. 435).

The researcher does not intend all independent variables to be used simultaneously to predict success. Due to what Kerlinger (1973) refers to as the regression law of diminishing returns (p. 625), more than three or four independent variables cannot be expected to increase coefficients of correlation sufficiently to justify their inclusion. Kerlinger explains that this diminishing return is due to the fact that most independent variables which are significantly correlated to the same dependent variable will be correlated to each other. Thus, inclusion of one independent variable implies inclusion of another independent variable to which the first is highly correlated. The independent variables of this study will be compared to each of the other independent variables to determine what correlations are present. A stepwise method of selection of variables will be utilized in an effort to get "the 'best' set of discriminating variables" (Nie et al., 1975, p. 434).

Application of this analysis requires that the data to be analyzed are distributed normally. Regressions and variances are both applied to measures of central tendency. And such measures of central tendency assume that the frequency data being analyzed have a near normal distribution. The measures of skewness and kurtosis of the teacher-instruction, teacher-relationships, principal-instruction and
principal-relationships (see Table 2) indicate that normal distribution exists for the data from the \( O_2 \) and \( O_3 \) measures.

**Table 2**

Measures of Normal Distribution of \( O_2 \) and \( O_3 \) Data from Districts Responding to \( O_4 \) Measures

<table>
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<th>All districts responding to ( O_4 ) measures</th>
<th>Kurtosis</th>
<th>Skewness</th>
</tr>
</thead>
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<tr>
<td>Teacher Instruct</td>
<td>0.512</td>
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<td>Teacher Relate</td>
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<tr>
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</table>

<table>
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<th>Districts responding to ( O_4 ) which indicated noncontinuation</th>
<th>Kurtosis</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
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<td>-0.682</td>
</tr>
<tr>
<td>Teacher Relate</td>
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<tr>
<td>Principal Instruct</td>
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<tr>
<td>Principal Relate</td>
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<td>0.658</td>
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</table>

<table>
<thead>
<tr>
<th>Districts responding to ( O_4 ) which indicated continuation</th>
<th>Kurtosis</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Teacher Relate</td>
<td>-0.089</td>
<td>-0.016</td>
</tr>
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<td>Principal Instruct</td>
<td>-0.851</td>
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<tr>
<td>Principal Relate</td>
<td>-0.016</td>
<td>0.144</td>
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</table>

Concern for lack of normal distribution would arise if kurtosis or skewness values approached positive or negative 4.000. Considering that the highest absolute value is \(|1.067|\) the normalcy of these distributions is well established.

The reader will note that teacher personal and principal personal data are excluded from these measures. The exclusion of these data from the study is explained in Chapter IV.
The Statistical Package for the Social Sciences (SPSS) computer program for discriminant analysis was used for this study. This computer program includes a check for normal distribution of data. The program identifies data that are not randomly distributed and in such situations will not proceed with analysis. Thus, predetermination of normal distribution of all independent variables is unnecessary.

Data Collected. The compilation of data collected appears in Table 3. Column (1) contains the code numbers of districts. Column (2) is school size as measured by student enrollment as of October 1976.

Column (3) contains code numbers which represent grade levels of the 1976-77 implementations. Code 1 indicates that the program was implemented at the elementary level (grades K-6) only; code 2 indicates that the program was implemented at the secondary level (grades 7-12) only; code 3 indicates that the program was implemented at both elementary and secondary grade levels; and code 4 indicates that program implementation was in a joint vocational school.

Column (4) includes the percentages of building staff members who participated in the 1976-77 implementation project. Column (5) includes the percentages of district staff members who participated in the 1976-77 implementation project.

Column (6) contains code numbers representing the districts' history of innovativeness. Code 1 implies that the district, prior to school year 1976-77, had not received ESEA Title III funds. Code 2 implies that the district, prior to school year 1976-77, received up to
and including $25,000 of ESEA Title III funds. Code 3 implies that the
district, prior to school year 1976-77, received over $25,000 of ESEA
Title III funds.

Columns (7), (8), (9), and (10) present the mean values of
teachers and principals' responses to two groups of items on instrument
02. These groups are (1) those items which refer to the innovative
program's capacity to improve instruction, and (2) those items which
refer to the innovative program's capacity to improve relationships
among school personnel. Explanation for the exclusion of comparable 03
measurement values in this table will be made evident in Chapter IV.

Column (11) contains code numbers representing levels of pro-
gram continuation by districts as measured in the spring of 1979. Code
0 implies no continuation. Code 1 implies continuation at a level
below that which the program was implemented in school year 1976-77.
Code 2 implies continuation at approximately the level of 1976-77
implementation. And code 3 implies continuation at a level higher than
1976-77 continuation.

In column (11) some lines contain two code numbers. Two
numbers indicate that two 04 responses were received from the respec-
tive districts. Column (12) contains code numbers representing
whether: 1, the 04 response was received from a person who partici-
pated in the 1976-77 project; 2, the 04 response was received from a
person who did not participate in the 1976-77 project; or 0, the
respondent did not indicate whether or not he was a 1976-77 project
participant.
Table 3 is useful in comprehending the data collected for this study. This table will serve to understand rationale which is presented in Chapter IV.
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<td>(3) % of Buildings</td>
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<td>(5) History</td>
<td>(6) Teachers Instruct</td>
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</table>
CHAPTER IV

FINDINGS

Revisions of the Research Design

0jc, the Percentage of Building Staff Which Participated in Implementation Project. Consideration of the percentage of participants in a building had to be excluded from this study. Collection of data for this inquiry depended on a district implementing the program in a single building. Instances where the implementation was in more than one building were lost to the study as there was not opportunity ex post facto to know which participants were assigned to each building. Sixteen districts implemented the program in a single building. Though these districts each responded to the 0̄̄ measurement, this statistic had to be excluded. An n of sixteen is not sufficiently large to provide a stable coefficient of discrimination.

Analysis Technique to Incorporate Perceptions of the Innovation. The items of the $O_{2}$ and $O_{3}$ measurement instruments intended to measure participants' perceptions of the value of the innovation to improving instruction, hereafter referred to as instruction or teacher instruct or principal instruct, had relatively high coefficients of reliability, ranging from .788 for $O_{2g}$ to .863 for $O_{3h}$. The items of the $O_{2}$ and $O_{3}$ measurement instruments intended to measure participants' perceptions of the value of the innovation to improving human relationships among school personnel, hereafter referred to as relationships or teacher
relate or principal relate, had relatively high coefficients of reliability, ranging from .747 for $O_{2g}$ to .828 for $O_{3h}$. (See Table 4.)

The items of the $O_2$ and $O_3$ measurement instruments intended to measure participants' perceptions of the innovation as it affects their personal being, hereafter referred to as personal, had relatively low coefficients of reliability, ranging from .41498 for $O_{3h}$ to .52743 for $O_{3l}$.

**TABLE 4**

Coefficients of Reliability for Three Groups of Items of Measurements $O_2$ and $O_3$

<table>
<thead>
<tr>
<th></th>
<th>Teachers Pre-Inservice ($O_{2p}$)</th>
<th>Principals Pre-Inservice ($O_{2g}$)</th>
<th>Teachers Post-Inservice ($O_{3h}$)</th>
<th>Principals Post-Inservice ($O_{3l}$)</th>
</tr>
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<tbody>
<tr>
<td>&quot;Instruction&quot;</td>
<td>.84695</td>
<td>.78846</td>
<td>.86304</td>
<td>.82105</td>
</tr>
<tr>
<td>&quot;Relationships&quot;</td>
<td>.80231</td>
<td>.74653</td>
<td>.82808</td>
<td>.80631</td>
</tr>
<tr>
<td>&quot;Personal&quot;</td>
<td>.46010</td>
<td>.48667</td>
<td>.41498</td>
<td>.52743</td>
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</table>

Because the reliability coefficients for the personal items are relatively low, this feature is excluded from consideration as a portion of the independent variables. The statistical analysis of the independent variables related to participants' perceptions were limited to the two groups of items related to instruction and relationships.

Comparison of $O_2$ and $O_3$ Measurement Values. A comparison of $O_2$ responses with $O_3$ responses is presented in Table 5. The means of all
teachers and all principals' $O_2$ and $O_3$ responses to the instruction and relationships groups of items are presented. For ease of discussion, the eight cells of Table 5 are numbered (1) through (8). Comparisons of the mean values of cells (1) and (2), (3) and (4), (5) and (6), and (7) and (8) reveal very little difference between $O_2$ and $O_3$ measures. For instruction, the mean of teachers' responses decreased .045 and the principals' responses increased .060 between $O_2$ and $O_3$. For relationships, the mean of teachers' responses increased .124 and the principals' responses increased .005.

**TABLE 5**

Comparisons of $O_2$ and $O_3$ Measures

<table>
<thead>
<tr>
<th></th>
<th>Items Related to Instruction</th>
<th>Items Related to Relationships</th>
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<tr>
<td><strong>Means of Teachers'</strong></td>
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<tr>
<td>$O_2$ Responses</td>
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<td>3.934</td>
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</tr>
<tr>
<td><strong>Means of Teachers'</strong></td>
<td>(2)</td>
<td>(6)</td>
</tr>
<tr>
<td>$O_3$ Responses</td>
<td>3.993</td>
<td>4.058</td>
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<tr>
<td><strong>Means of Principals'</strong></td>
<td>(3)</td>
<td>(7)</td>
</tr>
<tr>
<td>$O_2$ Responses</td>
<td>4.121</td>
<td>4.166</td>
</tr>
<tr>
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</tr>
<tr>
<td><strong>Means of Principals'</strong></td>
<td>(4)</td>
<td>(8)</td>
</tr>
<tr>
<td>$O_3$ Responses</td>
<td>4.181</td>
<td>4.171</td>
</tr>
</tbody>
</table>

As stated in Chapter III, there was no reason to expect these attitudinal values to change from $O_2$ to $O_3$. The treatment between $O_2$ and $O_3$ was not intended nor expected to effect attitudinal change.
Because of the similarity between $O_2$ and $O_3$ measures, the researcher accepted that $O_2$ measures were sufficient to study as predictors of success. (The recognition of the similarity of $O_2$ and $O_3$ is a benefit to the practitioner as he searches for success indicators which occur prior to inservice training and prior to the expenditure of resources this training requires.)

**Levels of Success.** Success was to have been interpreted as the four levels of continuation which were discussed in Chapter III. The $O_4$ measures which were returned were distributed over the four levels of success as shown in Table 3. The limited number, 10, of "not continuing" districts, the limited number, 9, of "moderately continuing" districts, and the limited number, 4, of "high continuing" districts did not provide sufficient sized n's to accommodate statistical analysis. To create sufficiently large n's, the two bottom groups were combined into a single group and the two top groups were combined into a second group. Then success was addressed as two levels of continuation. The bottom level was referred to as representing those districts which were not continuing the program or were continuing below the level at which it was implemented. The higher group represented those districts which were continuing the program at, or higher than, the level of implementation.

This modified classification provided a group of below-implementation-level with an $n$ of 19 districts and a group of at-or-above-implementation-level with an $n$ of 21.
The revised research design is graphically represented as:

0_{1c} and 0_{3} measures were excluded. The 0_{4} measures of success revealed program continuation at a level lower than initially implemented, 0_{4,1}, or program continuation at a level equal to or higher than initially implemented, 0_{4,2}.

**Nonresponse Bias Tests.** Statistical tests of significance were conducted on the data available from the responders and the telephone sample of nonresponders to determine if difference was extent in the two groups of data. A two-tailed T test was conducted on data associated with those variables which were expressed in continuous format. Table 6 sets forth the results from these tests. No significant difference exists for any of these groups of data even at the .10 level.
### TABLE 6
Statistical Levels of Significance for Data in Continuing Format

<table>
<thead>
<tr>
<th>Variable Measurement</th>
<th>T Value</th>
<th>Degrees of Freedom</th>
<th>2-Tail Probable Level of Significance</th>
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</thead>
<tbody>
<tr>
<td>$O_{1a}$ - Size</td>
<td>0.47</td>
<td>42</td>
<td>0.638</td>
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<tr>
<td>$O_{1d}$ - Percent district</td>
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<td>0.542</td>
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<td>$O_{2f}$ - Teacher Relate</td>
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<td>$O_{2g}$ - Principal Relate</td>
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</table>

Chi Square tests were conducted for comparison of data which were expressed in classified format. Table 7 sets forth the results from these tests. No significant difference exists for any of these groups of data even at the .10 level.

### TABLE 7
Statistical Levels of Significance for Data in Classified Format

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<th>Degrees Freedom</th>
<th>Significance</th>
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<td>$O_{1e}$ - History</td>
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<td>$O_{4}$ - Continuation</td>
<td>2.39404</td>
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</table>
Available Data

Twenty-five districts returned $O_4$ responses from two individuals as requested. (Refer to Table 3, column 11.) In most instances the results reported in the two responses from a single school were highly correlated. In nine instances the results returned from the same schools communicated different levels of continuation. To avoid loss of data and still maintain objectivity, one of the two responses was randomly selected for each school submitting two $O_4$ responses.

One of the districts which submitted two responses had not returned either $O_2$ or $O_3$ responses. The researcher chose to exclude this district from the study.

One of the districts submitted $O_3$ measurements but no $O_2$ measurements. The $O_3$-only data might have been included in the study based on the rationale of similarity between $O_2$ and $O_3$ measurement values. (This similarity was presented earlier as rationale for including $O_2$ measures and not $O_3$ measures.) However, the district submitting $O_3$ and not $O_2$ measures, being the only district to do so, was excluded from the study to avoid possible bias.

Table 8 presents the data subjected to the discriminant analysis. This table is presented in a similar format to that of Table 3 for ease of comparison. Revision of the research design, presented earlier in this chapter, results in deletion of data in Table 8.
TABLE 8
Data Submitted for Analysis

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<th>Grade Level 0.1b</th>
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<th>% of Districts 0.1d</th>
<th>History 0.1e</th>
<th>Teachers-Instruct 0.2f</th>
<th>Teachers-Relate 0.2f</th>
<th>Principals-Instruct 0.2g</th>
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<td>(3) Grade Level $a_{1b}$</td>
<td>(4) % of Buildings $a_{1c}$</td>
<td>(5) % of Districts $a_{1d}$</td>
<td>(6) History $a_{1e}$</td>
<td>(7) Teachers-Teach $a_{2f}$</td>
<td>(8) Teachers-Relate $a_{2g}$</td>
<td>(9) Principals-Teach $a_{2h}$</td>
<td>(10) Principals-Relate $a_{2i}$</td>
<td>(11) Success Level $a_{2j}$</td>
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</table>
Column (0) contains an index number which represents the number of the case. This is not to be confused with the numbers in column (1) which represent the identification number of the district. Column (2) is the size of the student population of the district in October of 1976.

Column (3) contains code numbers 1, 2, 3, and 4. These numbers represent the grade levels at which districts implemented the innovative program in school year 1976-77. Code 1 represents elementary school (grades K-6) implementation, code 2 represents secondary school (grades 7-12) implementation, code 3 represents both elementary and secondary school implementation, and code 4 represents that implementation was in a joint vocational school (grades 11 and 12).

Column (5) presents percentages of district staff members which participated in the implementation project in school year 1976-77. Column (6) contains code numbers representing the districts' history of innovativeness. Code 1 implies that the district, prior to school year 1976-77, had not received ESEA Title III funds. Code 2 implies that the district, prior to school year 1976-77, received up to and including $25,000 of ESEA Title III funds. Code 3 implies that the district, prior to school year 1976-77, received over $25,000 of ESEA Title III funds. Columns (7), (8), (9), and (10) present mean values of O2 measures of teachers and principals' perceptions of the innovative programs' ability to improve instruction and the relationships among school personnel.

Column (11) contains code numbers for levels of success. Code 1 indicates that the district is not continuing the program at
(or higher than) the level at which it was implemented in the 1976-77 school year. Code 2 indicates that the district is continuing the program at least at the level at which it was implemented in school year 1976-77.

**Results of the Discriminant Analysis**

A summary of the results of the stepwise discriminant analysis is presented in Table 9.

**TABLE 9**

Discriminant Analysis Summary Table
All Cases

<table>
<thead>
<tr>
<th>Step Number</th>
<th>Variable Entered</th>
<th>Wilks' Lambda</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Teacher Relate</td>
<td>0.83460</td>
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<tr>
<td>2</td>
<td>Grade Level</td>
<td>0.78567</td>
</tr>
<tr>
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<td>Teacher Instruct</td>
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</table>
The prediction results of these four variables are presented in Table 10.

**TABLE 10**

*Prediction Results*

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<th>Actual Group</th>
<th>Predicted Group Membership</th>
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<td>Continued 2</td>
<td>22.7%</td>
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</table>

The percent of "grouped" cases correctly classified was 73.17%.

In an effort to determine the stability of these discriminant coefficients, a second analysis was run on a random ninety percent sample of the 40 cases. A summary of the results of this analysis is presented in Table 11.

**TABLE 11**

*Discriminant Analysis Summary Table*

<table>
<thead>
<tr>
<th>Step Number</th>
<th>Variable Entered</th>
<th>Wilks' Lambda</th>
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</thead>
<tbody>
<tr>
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<td>Teacher Instruct</td>
<td>0.73661</td>
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</table>
The prediction results as shown from the sample case run are presented in Table 12.

**TABLE 12**

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>Predicted Group Membership</th>
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<tr>
<td>Continued 1</td>
<td>77.8%</td>
</tr>
<tr>
<td>Continued 2</td>
<td>36.8%</td>
</tr>
</tbody>
</table>

The percent of "grouped" cases correctly classified in the analysis of the sample was 70.27 percent.

A comparison of the prediction results of all cases with the prediction results of the sample cases revealed considerable similarity. Such similarity was indication of relatively stable discriminant coefficients.
TABLE 13

Statistical Correlations Between Six Independent Variables

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<tr>
<th></th>
<th>Teacher Instruct $0_{2f}$</th>
<th>Teacher Relate $0_{2f}$</th>
<th>Principal Instruct $0_{2g}$</th>
<th>Principal Relate $0_{2g}$</th>
<th>Size $0_{1a}$</th>
<th>% District Participate $0_{1d}$</th>
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</thead>
<tbody>
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<td>0.0674</td>
<td>0.1431</td>
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<td>-0.0217</td>
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<td>0.1838</td>
<td>-0.5274</td>
<td>1.0000</td>
</tr>
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</table>
Discussion of the Discriminating Variables

The fact that no variables discriminated in this analysis after four had entered the stepwise process was not surprising to the researcher. This fact is explained by what Kerlinger referred to as the regression law of diminishing returns. This Kerlinger reference was cited in Chapter III.

The researcher considered, were certain independent variables which were not included among the four discriminating variables in fact represented by one or more of these discriminating variables? The researcher suspected that strong correlations existed between certain of the independent variables. A Pearson correlation statistic was run on measures of variables $O_{1a}$, $O_{1d}$, $O_{2f}$ teacher instruct, $O_{2g}$ principal instruct, $O_{2f}$ teacher relate, and $O_{2g}$ principal relate. The numerical results of this statistic are presented in Table 13.
The strong correlation (0.9260) between teacher instruct and teacher relate was not unexpected. Because of this strong correlation, the researcher was surprised that both appeared as discriminant variables. Due to the high correlation between these variables, the addition of the second would not be expected to contribute sufficient increased discrimination to cause entrance into the discriminant equation. But as the summary tables (Tables 9 and 11) indicate, teacher instruct made a contribution in reducing the Wilks' Lambda statistic for the all-cases run and for the sample run. No explanation is offered. The result is discussed as a point of interest.

The absence of correlation between the principals and teachers' perceptions of the innovation was of interest to the researcher. The absence of the building principal variables as discriminators should be mentioned in relation to this lack of correlation. The Rand study found that principal support of an innovation is important to implementing change. This Rand finding led the researcher to expect that the principals' perceptions of the innovative program would be positively correlated to success. Such is apparently not true from this study. The implications of this finding are discussed in Chapter V.

A negative correlation of some magnitude (-0.5274) appears between size of district and district staff participation. This negative correlation was expected and was discussed as a likelihood in Chapter III. A maximum number of participants was permitted in each implementation project regardless of the size of the district receiving
the project. Consequently, the larger the district the smaller was the percentage of staff members who participated.

Neither the size variable or the percent-of-district-staff variable were found to discriminate. The researcher was suspicious that these two variables might be represented by the history variable which did enter the discriminant equation. To investigate this possibility, an ETA* test was run on size and history and a coefficient of 0.6028 resulted. This coefficient is sufficiently large to suggest that district size and percent-of-district-staff variables, while not discriminant, do in fact have a linkage with success.

The presence of history as a discriminant is to be expected. As discussed in Chapter II, some districts have a "sense" of innovation. The researcher believes that a district with a record of initiating innovations is likely to continue innovative programs.

The grade level variable was established on an intuitive basis. Chapter I was not conclusive regarding which grade levels, elementary or secondary, were more likely to support innovation. Lippitt believed that elementary teachers were too insecure to try new things while Emrick and Berman & McLaughlin said that secondary schools were too structured to accommodate change.

The computer programming for the grade level analysis required the researcher to make a prediction. The grade level implementations were coded as: (1) elementary, (2) secondary, (3) both elementary and secondary, and (4) joint vocational school. The

*The ETA correlative test permits statistical comparison of two characteristics, one which is continuous and one which is classified.
researcher predicted that districts which implemented the innovation simultaneously at both elementary and secondary grade levels would have the higher rate of success. This prediction was based on a belief that a comradery of teacher participants, a gestalt, would develop where the less-acquainted secondary and elementary teachers met for project purposes. This judgment was more intuitive than logical. The second highest rate of success, the researcher predicted, would be with elementary school implementations. Secondary schools were ranked third and joint vocational schools were ranked fourth. The joint vocational schools were suspected of being less likely to continue the program because of some specific problems particular schools had in getting the innovation implemented in 1976-77.

The presence of the grade variable as a discriminant indicates that the ranking, if not the rationale, was correct. In both analyses, the all-cases and the ninety percent sample, the grade level variable appeared in the second step. The significance of this will be discussed in Chapter V.
"All decisions arrived at by the use of any statistical test must carry with them this qualification: 'If the model used was correct, and if the measurement requirement was satisfied, then..."" (Siegel, 1956, pp. 18 & 19).

The researcher recognizes the appropriateness of this qualifier for his study. Effort has been made to model correctly and not to allow the study to be slave to the model. The model was designed to fit the research designed. Effort has been made to create or choose and execute measurement in keeping with sound scientific practices. But, every measurement is an approximation. Thus, all research, especially field-based research, and more especially still, behavioral-science field-based research is fraught with measurement, approximation and error.

The conclusions are arrived at with due consideration to the limitations of measurement, statistics and human judgment.

Conclusions and Implications

Teachers' Perceptions. Of the variables considered the best indicator of continuation of the innovation is the teachers' perceptions of how the innovative program would assist them to improve their relationships with students, principals, and other teachers. Also discriminating in
identifying successful continuation is the teachers' perceptions of how the innovation would help them to improve their instructions. These findings are of considerable interest considering that principals' perceptions of the innovation provide no discrimination to predicting success.

What particular teacher perceptions discriminate is not the important contributor to the conclusion. But the finding that teacher perceptions discriminate is important.

An explanation of why principals' perceptions do not correlate with continuation is suggested by the lack of divergency in the measures of principals' perceptions. Practically all principals perceived the innovation highly positively. Only one or two of the principals indicated any doubt about the values of the innovative program. Thus, data from principals' perception measurements were highly similar. Teachers, however, submitted a wide range of perceptions. And, apparently, program continuation levels correlated positively to these teacher measures.

The lack of divergent perceptions by principals suggests that perhaps principals either cannot distinguish when an innovation is appropriate for the teachers in their buildings or the principals, for other reasons, are not willing to admit that the innovation will not work in their buildings.

Another explanation for the fact that principals' perceptions are not predictive might be that teachers, and not principals, are in control to determine whether innovations get continued. Possibly,
teachers, reacting to early perceptions of innovative programs, proceed to continue or not continue the programs accordingly.

The AGP organization focused on administrators, including building principals. Awareness announcements were mailed to superintendents and principals. Awareness meetings were conducted during school hours when attendance by classroom teachers was difficult. Apparently, provisions need to be made in the AGP to focus awareness more on teachers.

A component of the AGP should be an effort early in the awareness or implementation stages to enhance teachers' perceptions of the program. Time and effort should be expended to explain in detail, to teachers, what benefits the innovation has to offer them.

**Grade Level Implementation.** Potential adopters of innovative programs should be informed that grade level of implementation is a discriminator in identifying districts which will continue the program beyond implementation. Districts should be informed that implementation at both the elementary and secondary levels, simultaneously, is a contributor to successful continuation.

The indication that elementary school implementations are more likely to be continued than are secondary school implementations needs to be treated sensitively. The indication of elementary school continuation over secondary school continuation is not strong. The conclusion to be made with the information is that it should be treated as one item of information when monitoring innovation implementations
in secondary schools. Such information will provide the monitor with greater alertness to problems and potential problems.

History. Districts with a history of implementing innovation are more likely to continue innovations beyond implementation. This correlation is suggested by the fact that history is a discriminator of success as revealed by this study.

The researcher concluded that districts without a history of innovation are less likely to continue innovative programs. This conclusion implies that increased concern and attention be given districts not oriented toward innovativeness. Intervention should be included in the AGP to lend support to new innovators. Follow-up assistance beyond implementation may be necessary to support continuation of innovative programs.

Size. There was no indication from this study that size of school district predicted success of continuation of innovations. This finding did not support the literature cited in Chapter II. Previous studies led the researcher to expect greater success in districts of 5,000 to 10,000 enrollment. There was no suggestion that schools of particular size should receive particular attention to enhance program continuations. The researcher can offer no explanation as to why size of district was not a discriminator, except to say that possibly the diffusion program served all districts equally, regardless of size.
Percentage of District Staff as Project Participants. Percentages of district staffs which participated in implementing the innovation ranged from three to eighty-six. Inasmuch as this variable did not appear as a discriminator, no effort needs to be directed to encouraging particular levels of staff membership participation in program implementations.

Recommendations for Further Study

Similar Micro Studies. Chapter II emphasized the importance of this study due to the needs also expressed in Chapter II, for more field-based-data studies in diffusion of innovation. These studies need to be micro studies. Such studies will contribute inductively to the creation of a theoretical base for educational change diffusion.

Larger, more encompassing studies, are costly and consequently, limited in number. Less costly, micro studies, will focus on specific phenomena in particular settings. As findings from such studies are reviewed, compared, and in turn studied, a more scientific base for change diffusion will emerge. Studies, similar in nature and design to this, but in differing educational change diffusion settings, are necessary.

Studies Considering Change Clients. The researcher has been critical of change theorists and researchers as they have failed to involve potential change users, clients, in establishing change theory. As was discussed in Chapter II, most of the modeling which has been done in change study has treated the client passively and even condescendingly.
This study indicates that teachers' perceptions of the innovation are predictors of continuation. The researcher believes that this finding supports his earlier criticism. Research needs to be conducted to further validate that change clients' attitudes cause continuation and discontinuation of innovations.

Study of effects on clients' attitudes of innovations will further the science of change diffusion. As change developers and diffusers of change learn more about affecting clients' attitudes, then change efforts will be more effective and accompanying expenditures will be more accountable.

The exclusion from the study of the O2f teacher personal and principal personal considerations was, the researcher believes, of significant loss to the study. The personal concerns of the teachers are at the core of the client-oriented research which is needed.

The personal components were dropped due to the low reliability present in the items of the instruments. This low reliability may have occurred due to the limited number of items (five) on the O2 instruments which measured this variable. Another possible explanation for this low reliability may be that the concept of teacher personal was not sufficiently conceptualized. Such poor conceptualization could result in items which addressed differing phenomena. Study of the relationship between program continuation and teachers' perceptions of how the program will effect them personally is appropriate.
Studies Considering the RD&D Model. As indicated in Chapter II, the researcher believes that the RD&D model needs modification if it is to appropriately serve educational change. The model, as Guba and Clark eventually discovered, needs to include an implementation component. Beyond this, the researcher believes that a utilization, including institutionalization, component must be added. The model should be expanded to account for differing needs which affect the various components, especially the research and utilization components.

The researcher contends that the needs which motivate the researcher to create knowledge have erroneously been assumed to be the needs which motivate users to apply the knowledge. Study should focus on the many needs which are addressed by researchers, developers, diffusers and users. Such study should address the commonalities and the differences of those needs as well as the interactions of the needs.

The Rand Corporation issued a paper, by Paul Berman, in January 1979, entitled "Federal spending on social reform: what went wrong, and where do we go from here?" In this paper, Berman suggested that the R&D [RD&D] approach has been the least effective strategy for bringing about social change. He calls for the setting aside of the RD&D model by the federal officials. The researcher agrees that this model has been a source of much inefficient activity and wasteful spending. However, as stated earlier, improvement of the model is needed, not total rejection.
APPENDIX

Instruments
This instrument is intended to measure perceptions; i.e., feelings, beliefs, thoughts; which you have regarding the "Teacher Self-Evaluation Process" Adaptation project. The results of this measurement will be used in a search for relationships between perceptions held before the training and perceptions after you have completed the self-evaluation process. The results of this instrument will not be used to judge participants, schools or consultants. Identification of the respondent is necessary to allow comparisons of your responses over periods of time. To identify you as a respondent, please record your birth date, month and day, in the place provided above. This information will allow necessary comparison without revealing who you are.

Please respond to each of the following items by circling one of the numbers to the right of the items. These response numbers: 1, 2, 3, 4 and 5; permit you to indicate how strongly you feel about each item. The 1, 2, 3, 4 and 5 represent "strongly disagree", "disagree", "neutral", "agree" and "strongly agree" respectively. Your response to an item should be the number which represents the best description of your perception regarding the item.

1. Viewing my videotapes will provide an opportunity to improve my verbal and non-verbal communications.

2. My rapport with students will be improved due to this project.

3. Even though I have had professional training and experience I can improve my instructional skills.

4. This project will cause me to be more aware of my behavior in the classroom.

5. This project will allow a more wholesome, professional relationship to develop between myself and the principal or supervisor with whom I view and discuss my videotapes.
6. This project will make me more willing to accept students regardless of their levels of natura-
tion and achievement and to proceed to help the students to learn through means best suited to them.

7. I fear that the videotaping process will disturb and/or create an artificial situation in the classroom.

8. Even though I have had professional training and experience I can improve my relationships with other persons.

9. As a result of the training in this project, I will more effectively use higher levels of questioning techniques in my teaching.

10. Seeing myself on videotape will give me a better understanding of the ways students perceive me.

11. Participation in this project will help me to realize the extent to which I communicate feelings and information through my facial expressions and other nonverbal means.

12. This project will provide me with skills to analyze my classroom behavior.

13. Viewing videotapes of my classroom presentations will cause me to recognize that my instructions, descriptions and explanations can be improved.

14. This project will cause me to be more sensitive to nonverbal communications from students.

15. This project will result in my principal (or supervisor) being more helpful to me as I attempt to grow as a teacher.

16. The idea of being videotaped is frightening to me.

17. My lesson planning will be improved as a result of this project.

18. Through this project I will gain an increased awareness that I may favor some students.
19. I believe that my self-confidence will be, in the long view, improved as a result of participation in this project.

20. This project will increase my capabilities to work with other teachers to assist them in their own self-analyses of videotaped lessons.

21. This project will make me aware of many teaching techniques available to me.

22. Our school building will have a more positive and more effective teacher-improvement program as a result of this project.

23. A result of my participation in this project will be increased student involvement in classroom activities.

24. As a result of this project, I will use a variety of teaching techniques to better fit my instruction to individual student needs and thus create better learning environments.

25. The training I will receive will help me to develop teaching skills beyond those I presently possess.
This instrument is intended to measure perceptions; i.e., feelings, beliefs, thoughts; which you have regarding the "Teacher Self-Evaluation Process" Adaptation project. The results of this measurement will be used in a search for relationships between perceptions held before the training and perceptions after you have completed the self-evaluation process. The results of this instrument will not be used to judge participants, schools or consultants. Identification of the respondent is necessary to allow comparisons of your responses over periods of time. To identify you as a respondent, please record your birth date, month and day, in the place provided above. This information will allow necessary comparison without revealing who you are.

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1. The teachers look to viewing their videotapes as opportunities to improve their verbal and non-verbal communications.

2. A teacher's rapport with students will be improved due to this project.

3. Even though these teachers have had professional training and experience they believe that they can improve their instructional skills.

4. This project will cause teachers to be more aware of their behavior in the classroom.

5. This project will allow a more wholesome, professional relationship to develop between teacher participants and myself.

6. This project will make teachers more willing to accept students regardless of the students' levels of maturation and achievement and the teachers will proceed to help students learn through means best suited to individual student needs.
7. The teacher participants fear that the videotaping process will disturb and/or create an artificial situation in the classrooms.

8. Even though these teachers have had professional training and experience they believe that they can improve their relationships with other persons.

9. As a result of the training in this project, teachers will more effectively use higher levels of questioning techniques in their teaching.

10. When teachers view themselves on videotape they will get a better understanding of the ways they are perceived by students.

11. Participation in this project will help teachers to realize the extent to which they communicate feelings and information through their facial expressions and other nonverbal means.

12. This project will provide teachers with skills to analyze their classroom behavior.

13. Viewing videotapes of their classroom presentations will cause teachers to recognize that their instructions, descriptions and explanations can be improved.

14. This project will cause teachers to be more sensitive to nonverbal communications from students.

15. This project will result in me being more helpful in assisting teachers.

16. The idea of being videotaped is frightening to most of these teacher participants.

17. Teachers' lesson planning will be improved as a result of this project.

18. Through this project teachers will gain increased awareness that they may favor some students.
19. I believe that a teacher's self-confidence will be, in the long view, improved as a result of participation in this project.

20. This project will increase teachers' capabilities to work with other teachers to assist them in their own self-analyses of videotaped lessons.

21. This project will make teachers aware of many teaching techniques available to them.

22. Our school building will have a more positive and more effective teacher-improvement program as a result of this project.

23. A result of participation in this project will be increased student involvement in classroom activities.

24. As a result of this project teachers will use a variety of teaching techniques to better fit their instruction to individual student needs and thus create better learning environments.

25. The training teachers will receive will help them to develop teaching skills beyond those they presently possess.
TEACHER PARTICIPANTS' PERCEPTIONS OF THE
"TEACHER SELF-EVALUATION PROCESS"
ADAPTATION PROJECT

(Form 2)

Birth Date __________ Month/Day

This instrument contains the same items as the instrument to which you responded following the first day of project inservice training. Although the items are the same, you should not feel obligated to respond in the same manner as you responded previously. Since responding to that first instrument, you have had considerably more experience with the self-evaluation process. This experience may have caused you to think and feel differently about the project. It is your present perceptions of the "Teacher Self-Evaluation Process" project which you should indicate here.

Please identify yourself as a respondent in the space provided above by recording your date of birth. This instrument is an important part of a study of the Adaptation process. The results of this study will not be used to judge individuals, schools or consultants.

Please respond to each of the following items by circling one of the numbers to the right of the items. These response numbers: 1, 2, 3, 4 and 5; represent "strongly disagree", "disagree", "neutral", "agree" and "strongly disagree" respectively. Your response to an item should be the number which represents the best description of your perception regarding the item.

1. Participation in this project will help me to realize the extent to which I communicate feelings and information through my facial expressions and other nonverbal means.

2. Seeing myself on videotape will give me a better understanding of the ways students perceive me.

3. This project will cause me to be more sensitive to nonverbal communications from students.

4. This project will increase my capabilities to work with other teachers to assist them in their own self-analyses of videotaped lessons.
5. Our school building will have a more positive and more effective teacher-improvement program as a result of this project.

6. As a result of the training in this project, I will more effectively use higher levels of questioning techniques in my teaching.

7. The idea of being videotaped is frightening to me.

8. A result of my participation in this project will be increased student involvement in classroom activities.

9. This project will make me more willing to accept students regardless of their levels of maturation and achievement and to proceed to help the students to learn through means best suited to them.

10. My rapport with students will be improved due to this project.

11. Viewing my videotapes will provide an opportunity to improve my verbal and nonverbal communications.

12. I believe that my self-confidence will be, in the long view, improved as a result of participation in this project.

13. My lesson planning will be improved as a result of this project.

14. Even though I have had professional training and experience I can improve my instructional skills.

15. This project will result in my principal (or supervisor) being more helpful to me as I attempt to grow as a teacher.

16. I fear that the videotaping process will disturb and/or create an artificial situation in the classroom.
17. Viewing videotapes of my classroom presentations will cause me to recognize that my instructions, descriptions and explanations can be improved.  
   | strongly disagree | disagree | neutral | agree | strongly agree |
   | 1 | 2 | 3 | 4 | 5 |

18. As a result of this project I will use a variety of teaching techniques to better fit my instruction to individual student needs and thus create better learning environments.  
   | 1 | 2 | 3 | 4 | 5 |

19. This project will provide me with skills to analyze my classroom behavior.  
   | 1 | 2 | 3 | 4 | 5 |

20. Even though I have had professional training and experience I can improve my relationships with other persons.  
   | 1 | 2 | 3 | 4 | 5 |

21. The training I will receive will help me to develop teaching skills beyond those I presently possess.  
   | 1 | 2 | 3 | 4 | 5 |

22. This project will allow a more wholesome, professional relationship to develop between myself and the principal or supervisor with whom I view and discuss my videotapes.  
   | 1 | 2 | 3 | 4 | 5 |

23. This project will cause me to be more aware of my behavior in the classroom.  
   | 1 | 2 | 3 | 4 | 5 |

24. Through this project I will gain an increased awareness that I may favor some students.  
   | 1 | 2 | 3 | 4 | 5 |

25. This project will make me aware of many teaching techniques available to me.  
   | 1 | 2 | 3 | 4 | 5 |
This instrument is intended to measure perceptions; i.e., feelings, beliefs, thoughts; which you have regarding the "Teacher Self-Evaluation Process" Adaptation project. The results of this measurement will be used in a search for relationships between perceptions held before the training and perceptions after you have completed the self-evaluation process. The results of this instrument will not be used to judge participants, schools or consultants. Identification of the respondent is necessary to allow comparisons of your responses over periods of time. To identify you as a respondent, please record your birth date, month and day, in the place provided above. This information will allow necessary comparison without revealing who you are.

Please respond to each of the following items by circling one of the numbers to the right of the items. These response numbers; 1, 2, 3, 4 and 5; permit you to indicate how strongly you feel about each item. The 1, 2, 3, 4 and 5 represent "strongly disagree", "disagree", "neutral", "agree" and "strongly agree" respectively. Your response to an item should be the number which represents the best description of your perception regarding the item.

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<thead>
<tr>
<th></th>
<th>strongly disagree</th>
<th>disagree</th>
<th>neutral</th>
<th>agree</th>
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<tr>
<td>1.</td>
<td>Participation in this project will help teachers to realize the extent to which they communicate feelings and information through their facial expressions and other nonverbal means.</td>
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<td>2.</td>
<td>When teachers view themselves on videotape they will get a better understanding of the ways they are perceived by students.</td>
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<td>3.</td>
<td>This project will cause teachers to be more sensitive to nonverbal communications from students.</td>
<td>1 2 3 4 5</td>
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<td>4.</td>
<td>This project will increase teachers' capabilities to work with other teachers to assist them in their own self-analyses of videotaped lessons.</td>
<td>1 2 3 4 5</td>
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<td>5.</td>
<td>Our school building will have a more positive and more effective teacher-improvement program as a result of this project.</td>
<td>1 2 3 4 5</td>
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</table>
6. As a result of the training in this project, teachers will more effectively use higher levels of questioning techniques in their teaching.

7. The idea of being videotaped is frightening to most of these teacher participants.

8. A result of participation in this project will be increased student involvement in classroom activities.

9. This project will make teachers more willing to accept students regardless of the students' levels of maturation and achievement and the teachers will proceed to help students learn through means best suited to individual student needs.

10. A teacher's rapport with students will be improved due to this project.

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12. I believe that a teacher's self-confidence will be, in the long view, improved as a result of participation in this project.

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15. This project will result in me being more helpful in assisting teachers.

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23. This project will cause teachers to be more aware of their behavior in the classroom.

24. Through this project teachers will gain increased awareness that they may favor some students.

25. This project will make teachers aware of many teaching techniques available to them.
CONTINUATION of the TEACHER SELF-EVALUATION
ADAPTATION PROGRAM
MAY 1979

School District Name

This instrument is intended to measure continuation of the Teacher Self-Evaluation program three years after its implementation. This measurement will be used as part of a study to determine if continuation is predictable. The teachers and principals who participated in this program in school year 1976-77 completed measurement instruments in the summer and fall of 1976. These instruments measured program-related perceptions of the teachers and principals. The study being conducted will look for relationships between those perceptions and continuation of the program.

Names of school districts, buildings or individuals will not appear in this study. Names of school districts are necessary on this instrument to allow this measurement to be aligned with the respective responses collected in 1976. Judgment will not be made of individuals, buildings or districts. The intent of the study is to improve dissemination efforts.

Persons representing nonpublic schools may have participated in the 1976-77 project. However, as you respond to the items on this instrument, do not consider nonpublic schools or their staffs.

Continuation of the Teacher Self-Evaluation (TSE) program requires use of certain television equipment. This equipment, at the very least, needs to include a television camera, a television monitor and a videorecorder-player.

1. At least those items mentioned above are operable and are used to continue the TSE program. yes no

2. All equipment provided by the grant in 1976-77 is operable or has been replaced to permit the program to continue. yes no

3. Additional equipment has been purchased so that more teachers can be involved in the program. yes no

Continuation of the TSE program requires that teachers (a) be videotaped in teaching situations, (b) review and analyze the video recordings, (c) set objectives on which to concentrate, (d) work on objective(s) for approximately one month, (e) be re-videotaped, and (f) analyze these video recordings to determine if objectives have been met.
4. Our process includes at least that which is described above.
   circle one
   yes  no

5. Our process requires that a principal or supervisor be involved in the viewing of the video recordings.
   yes  no

6. Our process includes three or more tapings of the teacher.
   yes  no

When the TSE program was initially implemented in your district, certain teachers and principals/supervisors received training to learn how to use the program.

7. Some of the original participants have used the program during school year 1978-79.
   yes  no

8. Others than original participants have used the program during school year 1978-79.
   yes  no

9. Certain teachers, e.g., new teachers or second-year teachers, are required or expected to use the program.
   yes  no

10. All teachers are required or expected to utilize the program periodically, e.g., every three years.
    yes  no

The TSE program was initially implemented in one, two or three buildings in your district. (In the event that the program was implemented in all of the buildings in your district during project year 1976-77, item number 12 does not apply and you should respond by circling NA.)

11. The program continues in at least one of the buildings where it originally was implemented.
    yes  no

12. The program is used in other than the original building(s).    NA  yes  no

13. The program was implemented initially in at least one elementary building.
    yes  no

14. The program was implemented initially in at least one junior high or high school. (If implementation was in a middle school, what grade levels? __________)
    yes  no

If the TSE program has continued in your district through school year 1978-79, please respond to items number 15 through 20 below. These items (statements) pertain to effects which the TSE program has had in your district or building. You are requested to respond to each statement by circling one of five numbers to the right. These response numbers - 1, 2, 3, 4, 5 - permit you to indicate how strongly you feel about each statement. The numbers represent 'strongly disagree,' "disagree," "neutral," "agree" and 'strongly agree', respectively. Your response to an item should be the number which best represents your perception.

(more)
15. Teachers use higher levels of questioning techniques in the classroom as a result of having participated in this program.

16. A more positive and more effective teacher-improvement program has resulted in buildings because this program has been implemented.

17. More professional relationships have developed between the teachers and principals/supervisors as a result of this program.

18. Better communication between students and teachers has resulted from use of this program.

19. Teachers' instructional techniques have improved due to the use of this program.

20. The TSE program has been valuable for the district or building.

Please feel free to record any comments which you feel are needed to explain how you perceive or use the Teacher Self-Evaluation program. In the event that you believe the program is successful, you might wish to explain what particular component or event caused this success.

Comments:
Did you coordinate or participate in the 1976-77 implementation project?

Please complete and return this instrument by May 31, 1979, to:

Dr. Virgil Blanke  
College of Education  
Ohio State University  
301 Ramseyer Hall  
29 West Woodruff  
Columbus, OH 43210

Thank you for assisting with a much-needed study.
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