A STUDY OF INSERVICE EDUCATION PROGRAMMING ASSOCIATED WITH HIGHLY INNOVATIVE PROGRAMS IN SELECTED ELEMENTARY SCHOOLS

by

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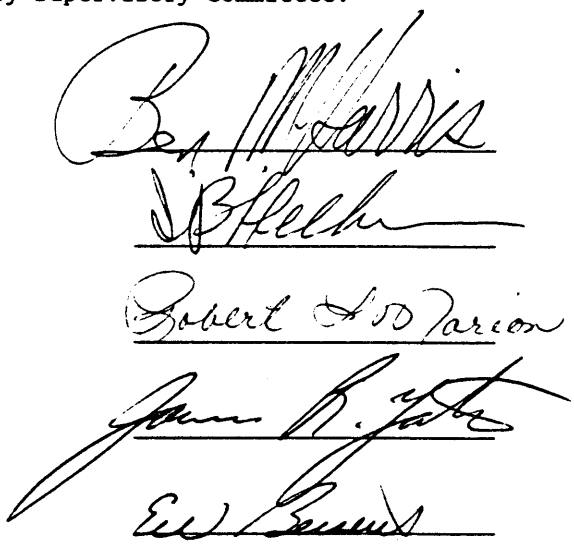
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Approved by Supervisory Committee:



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CHAPTER I

DESCRIPTION OF THE STUDY

Introduction

One of the most persistent concepts associated with elementary and secondary schools in the 1970's is innovations in instruction. On all sides change has been encouraged and, in fact, demanded almost for its own sake. The literature of instruction is especially full of suggestions, exhortations, methods, and management schemes to bring about innovations and change in our schools. There are even handbooks for parents (Lurie, 1970) on ways to "fight the system" and change their children's schools. The more recent "back to the basics" movement which we see discussed in almost every evening's paper is characterized by more than just an appeal to return to past practices. They tend to be demands for better systems even though limited in purpose. Frymier's (1969) statement that the need for education change in America has not been met to date is still a viable one, even though it was made ten years

ago. Improvement is still being sought through significant change in practices and programming (Havelock and Havelock, 1972; Eastern Regional Institute for Education, 1972; Alexander, 1974).

Education is, of course, complex and grows more complex daily as new developments in educational technology evolve. The common assumption held at the turn of the century that only certain students were candidates for secondary and collegiate education and that such education was a privilege is no longer acceptable to many in this society. This was affirmed in the Dixon vs Alabama (1961) case that held that education is a necessity rather than a privilege, and schools are no longer supported in refusing education to a child merely because he does not fit a program. Responsibility for providing some kind of educational opportunity to those for whom we have not before served is being emphasized in laws mandating broader programming (Texas Senate Bill 230; Texas Senate Bill 340); in court decisions restricting suspensions and expulsions (Tinker vs DeMoines, 1964); and by growing federal expenditures for new programming even in an era of austerity (Public Law

94-142). Providing this educational opportunity for students who have not before been served requires great change.

But it is not only the populations that have changed which schools must now serve, but there are demands for changes in the quality of the product which is produced as well as in the content of the curriculum. The public is demanding more knowledgeable graduates, and they want more things taught. Vocational training, new math, driver's education, career education, and multi-cultural education are a few examples of the kinds of content changes in the curriculum being required of schools.

Schools have responded in various ways (Harris and others, 1979; Bishop, 1971). They have reorganized, adapted their curricula, used technological advances, and changed their facilities. They have reorganized by using team teaching, flexible scheduling, the nongraded approach, and large group/small group strategies. They have adapted their curricula through the use of teacher-made materials, commercially prepared materials, instructional objectives, and the concept of continuous

progress. They have learned how to use overhead projectors, tape recorders, filmstrip projectors, computer assisted instruction, and computer managed instruction. They have rebuilt and remodeled facilities in order to accommodate large group/small group spatial needs as well as independent study space, instructional resource and materials centers.

Two recent nationwide developments are an excellent example of the demand made upon teachers and schools for change. First is the mandate for an appropriate public education for all handicapped children ages 3 through 21. Here the responsibility for delivery of services to the majority of the handicapped lies primarily with the regular classroom teacher who for the most part does not have any specialized training to deal with the problems. Second is the requirement for school districts to provide bilingual education for children whose primary language is not English. Both of these developments require a high degree of specialized skills which many teachers do not have or have not acquired through a pre-service training program.

The changes are tremendous, and they require teacher response with informed judgement, new skill, and positive open attitudes. But teachers have often been ill equipped to respond adequately to these changes or to other innovations imposed upon them. In addition to pressures for better basic skills, they are feeling pressure about career education, expanded vocational education, adaptations to a "quarter system", desegregation of schools and classrooms, and a rising tide of social problems with which to cope.

One of the responses made by the schools to the demand for change has been inservice education. Inservice education is not a new concept. It has been in existence as long as public education (Collins, 1972). Some of the more recent specific efforts in inservice education are: (1) the National Science Foundation Institutes in which 30 million dollars were spent in 1959 and 40 million dollars in 1962, (2) the National Defense Education Act (NDEA) that was passed in 1964 and allowed institutes to be funded for both elementary and secondary teachers in a broad array of content fields, and (3) the Education Professions Development Act (EPDA) and the Elementary and Secondary

Education Act which stimulated inservice education activities for facilitating specific planned changes in existing programs within the school (Harris, in press).

Inservice education has been successful in effecting change in schools (Harris & Hartgraves, 1972). Almost one hundred studies of inservice education programs were analyzed in 1974 (Lawrence). The results indicated that four out of five studies reported significant changes in teacher behavior.

There has been, however, limited interest in inservice education, and lack of support for it is widespread (Yarger, 1976). Almost any educator can willingly testify to the poor quality of much of the inservice that has been delivered (Orrange and Van Ryn, 1975; Fantina, 1971). But even with poor quality in mind, there is general agreement among many educators that under no circumstances should inservice be discontinued (Howey, 1976; Joyce, et al, 1976; Hite, 1976). It is an effective means of teacher training (Heeney, 1973). It can create significant changes in knowledge and skill, and it is effective in producing changes in classroom and larger school operational patterns. It is

effective with both experienced and inexperienced teachers (Coody, 1967), and it is considered by some authorities to be an absolute necessity in improving quality education (Harris, 1975).

Texas is no exception to the pressures for change in the national picture (Senate Bill 230, Senate Bill 340). One response has been to provide a framework within the state for inservice education. In 1970 a 180 day school term was established by the Legislature through House Bill 240 for providing instruction to students plus a 10 day period of time for inservice and other specified activities. In 1972 an accreditation standard was approved by the State Board of Education requiring the development of local district inservice activities from approved procedures for assessing the performance of the professional staff. In 1975 House Bill 1126 specified that the 10 days required in House Bill 240 be used for inservice education and preparation. Financial allocations were made to provide support. The State Board of Education officially adopted staff development as a priority area in September, 1976. It set the following long range objective:

> By 1982, 80 percent of the school districts in Texas will be operating staff development programs which satisfy general guidelines developed through interactions among representative personnel in school districts, regional centers, educators in colleges and universities, and staff of the Texas Education Agency (1976).

Specific tasks were outlined for the State Department of Education.

> To achieve this objective, the following tasks will be undertaken by the Agency in concert with appropriate personnel outside the Agency:
>
> 1. Develop further the capabilities of Agency and service center personnel for providing leadership in this endeavor.
>
> 2. Establish appropriate processes for studying ways by which staff development programs may be improved in quality, including seeking concensus on such issues as definitions, governance, and alternatives for design and delivery of inservice.
>
> 3. Make an analysis of staff development practices in the State.
>
> 4. Report on the findings of the staff study and those of other groups to appropriate advisory and policy-making bodies.
>
> 5. Develop and distribute to school districts, regional education service centers, and other educational institutions general guidelines for local, regional, and state staff development programs, with accompanying materials for improving program analysis, for determining needs of individual staff members, and for evaluating programs in terms of their effectiveness in improving staff competence and impacting student learning.

6. Provide for the coordination of preservice/ inservice efforts, particularly those related to the operations of the local cooperative teacher education centers.

This is, in effect, one response toward the retraining of teachers for the acquisition of new knowledge and skills to meet the persistent demand for change in instruction.

Need for the Study

While it is known that inservice education can effect change, there is not sufficient understanding of the operational characteristics of inservice programming that is required for a school to facilitate specific planned change and produce sustained innovation. How many training hours of inservice training are required? What school- or district-wide time resources are needed? For example, what if it takes thirty days of inservice training or three days rather than the designated five? How much planning of what type does it take to assure quality programming? What kinds of follow-up activities are needed to assure effects? Does it require consultants? What kinds, from what sources are required? Or does it matter? Can it be done without any outside

help? Who needs to be responsible for the inservice? Is there a relationship between certain types of in-service and specific programming practices? If a certain innovation is desired, will a specific type of inservice facilitate its adoption? What are the sequential relationships most appropriate for curriculum development and training?

A complicating factor in answering questions such as these is the indication of numerous studies that reveal the lack of success of many innovations (Mosteller, 1976) as well as the suggestion that in many cases implementation of innovations still is not finalized after years of directed efforts (Kennedy, 1978). The problem of the bandwagon effect has been well documented (Cawelti, 1967), and it has been shown how frequently new programs are abandoned (Aslin and DeArman, 1976). There are studies, however, that indicate that innovations are possible, and do exist (Berman and McLaughlin, 1975). If we could document the existence of specific innovations of the type desired by many schools, might it be possible to associate specific inservice practices with them?

These are important questions which relate to the problems of educational policy-makers, program administrators, and training consultants at regional service centers, federal agencies, or in state or local systems. The answers to these questions might facilitate the task of helping schools change and improve their instructional programs. At the same time the answers might help provide guidelines by which we can revise state policy so that it will encourage and support schools who are trying to accomplish positive planned change.

This research study can provide data that can help to answer these questions and also contribute to a data base that can provide direction to those responsible for making future decisions regarding inservice education in Texas.

Statement of Problem

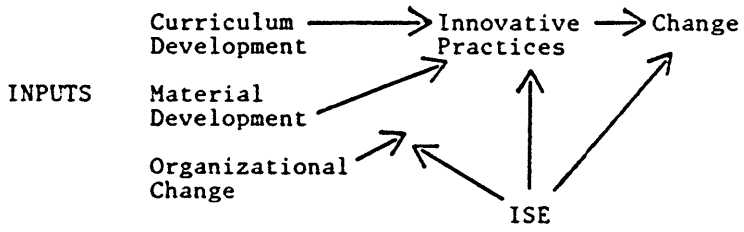
Schools are being asked and required to change. Teachers are in need of new knowledges, skills and competence. School and systemwide instructional changes are required. Inservice education programming

can be effective in facilitating such changes by providing the necessary training. It is being used to accomplish those purposes in many instances. However, there are no available guidelines with which to determine optimum requirements for inservice education programming that can contribute positively to planned change and innovation on a school campus. It has not been clearly demonstrated that certain characteristics of inservice practices are or are not associated with specifically documented innovations.

There are two purposes of this study. The first is to yield descriptive data related to inservice practices and innovative programming practices in schools in which the actual existance of specific innovations in individualizing instruction can be documented. The second purpose is to determine any relationships which exist between the inservice practices and the innovative programming practices.

The study exists within a conceptual framework that relates to the many inputs into a school that are designed to produce change. Among these inputs may be curriculum development, materials development, and/or structural or other changes in the organization. These

inputs can produce innovative practices. At the same time inservice education efforts as a planned, goal-directed change process are used to deliberately produce the innovative practices, effect the inputs and produce the ultimate goal of change. Inservice education is used as an instrument for change. In this study two processes emerge: (1) training and (2) curricular/programmatic innovation. The training is expressed in terms of the overall impact of the training experiences and the systematic leadership displayed in producing the training. The curricular/programmatic innovation is expressed in terms of the extent of the innovation as well as its complexity.



Design of the Study

A selected set of schools with carefully, previously validated innovations installed were used as the focus of the study. The innovative practices were analyzed to determine both extent of innovation and complexity of the innovation based on carefully documented observation reports. The inservice training practices currently associated with the schools and its innovative program participants were described and analyzed to permit analysis of the program of inservice education. Furthermore, the innovativeness variables were related to those of inservice education (overall experience impact in inservice and systematic leadership in inservice) to determine their relationships.

The fact that current practices of both kinds, inservice education and innovations, were studied during the same current time frame (1977-78) produces a special problem of design. Ideally, inservice training in prior years should have been analyzed in relation to emerging innovation practices. This was not feasible due to lack of available documentation. The assumption is made that conditions existing at the time of the innovative programs existed previous to innovation. The rationale for the design can be described as follows:

Assumptions

(1) Innovations require change in practices of implementers.

(2) Change in practices requires new learnings.

(3) New learnings may emerge out of formal or informal training or both.

(4) Hence, no inservice training (formal) is necessarily required for an innovation to be developed and maintained.

(5) However, if innovations are relatively complex and require an array of behavior changes (Rogers, 1962) they may well require inservice education (formal training) to evolve as fully operational changes in practice.

(6) Furthermore, more complex innovations requiring formal training are more likely to be emerging, evolving, and developing over a fairly long period of time (3-5 years).

(7) Therefore, training requirements recognized in early periods of the change process would be less than fully met during the early years of the innovation in operation.

(8) Hence, inservice education currently in operation may well reflect actual requirements of prior years.

Several interpretations could be drawn from the logical analysis presented here: (1) If relationships are found between inservice education and innovative practices then greater, stronger requirements could be assumed for earlier inservice education; (2) If relationships are found, the same level of inservice was required earlier and is now habit; (3) If no relationships are found, the inservice education has declined or has always been at an insufficient level.

Variables Involved in the Descriptive Study

There are two kinds of variables employed in the analysis of data. The first kind are those related to the first objective of the study which is to provide a descriptive analysis of the inservice education practices and the innovative programming practices. The second kind are those related to the relationships between the inservice education practices and the innovative practices in programming. The following is a

list and description of the variables involved in the descriptive study.

Inservice Education Practices

The variables used in the analysis of inservice practices were derived from a basic set of assumptions about what information is needed to be able to sufficiently describe the training. These variables were selected in order to yield a data base that would describe the inservice education practices of schools in which innovative programming practices in individualized instruction can be documented as to their existence and adoption. These variables are:

1. Experiences (ISE 1)

This variable represents the specific kinds of experiences that can be provided to a faculty and identified as inservice training. It includes how often the experience took place in number of the times per year. Another aspect of the variable is when the experience took place. For example, the specific experience of "Visits to other schools involving careful selection of places to visit prior arrangement" could have taken place as

many as over 10 times during the year or as few as not at all. When it took place could be (1) during off duty time during the summer and/or holidays, (2) during school hours without release time (3) during school hours with release time, (4) after school hours (5) on Saturdays, (6) designated inservice days.

2. Voluntarism (ISE 2)

This variable represents the degree of freedom that is perceived by the faculty in the participation in the inservice education.

3. Consultants (ISE 3)

This variable represents the kinds of personnel that were used to deliver the inservice training, and how they delivered it in relation to large group, small group or in individual work. These personnel could be from a source outside or from within the school district.

4. Planning (ISE 4)

This variable concerns the amount of district and campus level planning as well as identification of the individuals who were involved in the planning.

5. Resources (ISE 5)

This variable concerns the amount of funds designated for inservice education that are used at the local building level as well as the resources appropriated for release time for teachers.

6. Content (ISE 6)

This variable represents the identification of the specific content that is provided in the inservice education.

7. Level of Experience (ISE 7)

This variable represents the level of experiences in the inservice education in regard to identified stages in change strategies. It also involves an estimate as to whether or not the needs of the faculty are perceived as being met.

8. Incentive (ISE 8)

This variable represents the motivations of the faculty to participate in the inservice education.

Innovative Programming Practices in Individualized Instruction

The variables used in the analysis of innovative programming practices were derived from the

criteria for acceptance set by the network to which the schools belong. The variables were selected in order to yield a data base that can describe the innovative programming practices. These variables are:

1. Objectives (IP 1)

The curriculum is objective based and materials are either selected by by learner or school officials to meet the objectives.

2. Learner Involvement (IP 2)

Students choose tasks, help each other, suggest ways to accomplish a task, have a positive attitude toward school.

3. Learner Autonomy (IP 3)

Students often move about freely, on occasion score their own work and initiate some of their own activities.

4. Pacing (IP 4)

Under the teacher's guidance, students proceed at their own rates, adjust time spent on activities, skip tasks if they show mastery of them and move on to the next level on an individual basis.

5. Differentiation of Assignment (IP 5)

Students work on different tasks, with different kinds of materials, with different levels of materials; they

pursue different objectives from a broad offering, they recycle when needed, and get varying amounts of help from the teacher depending on need.

6. Varying Staffing Patterns (IP 6)

Teachers vary their duties based on skills and needs of the students; not all teachers teach every day, because duties are divided among members of teams. Aides may be available to assist, as well as parent volunteers.

7. Varying Teaching Strategies (IP 7)

Students work independently; cross-age tutoring is used; students tutor students; small and large groups are formed; groups are reformed when needed; one teacher works with one student. Contracts, learning stations and prescriptions may be used.

8. Flexibility in Classroom Arrangement (IP 8)

Provisions are made for a variety of classroom arrangements including small group, large group and individual work. Instructional materials are easily accessible.

9. Materials and Equipment (IP 9)

Many types of materials are available including (1) textbooks and library books, (2) audiovisual equipment, (3) commercial and teacher-made exercises and games.

10. Facilities (IP 10)

There is flexibility and variety in the use of facilities. Materials from a resource center or library form the basis of the individualized program and students have easy access at a variety of times to the center as well as to laboratory and supervised shops.

Variables Involved In the Study of Relationships Between the Inservice Education Practices and the Innovative Program Practices

The second objective of this study is to determine any relationships which exist between the inservice practices and the innovative programming practices. The following is a list and description of the variables involved in this second objective:

Inservice Education

1. Overall Experience Impact in ISE (ISE-I)

This variable represents a combination of part of the variables labeled experiences (ISE 1), consultants (ISE 3) and level of experiences (ISE 7) involved in the descriptive study under inservice practices. It refers to the variety and number of experiences, the number of

different kinds of personnel who deliver the inservice and how many different levels of experiences were presented. (ISE-I=ISE 1+ISE 3 +ISE 7less items 14-25, 33, 34, 35, and 61 from the Inservice Programming Practices questionnaire)

2. Systematic Leadership in ISE (ISE-II)

This variable represents a combination of parts of the variables labeled planning (ISE 4), resources (ISE 5), content (ISE 6), and voluntarism (ISE 2) involved in the descriptive study under inservice practices. It refers to the number of individuals involved in planning from both district and campus level, how much the district was willing to invest in time and money for inservice, the variety and amount of content, and the degree of freedom perceived in the participation in ISE. (ISE-II=ISE 4+ISE 5+ISE 6+ISE 2 less item 44 from the Inservice Programming Practices questionnaire)

Innovative Programming Practices

1. Extent of Innovation (IP-I)

This variable represents a combination of the variables labeled learner involvement (IP 2), learner autonomy (IP 3) and differentiation of assignment (IP 5) involved in

the descriptive study under innovative programming practices. It refers to student participation and responsibility in and for their own education as well as the student working on the level of curriculum which best suits his/her needs. (IP-I=IP 2+IP 3+IP 5)

2. Complexity of Innovation (IP-II)

This variable represents a combination of the variables labeled varying staffing patterns (IP 6), varying teaching strategies (IP 7) and facilities (IP 10) involved in the descriptive study under innovative programming practices. It refers to the amount and variety of strategies used in these three areas. (IP-II=IP 6+ IP 7+IP 10)

Research Questions

The overall design of the study and the analytical procedures focus on the following questions:

1. Do these highly innovative schools report inservice education programs and practices that reflect extensive efforts to assure training to implementing teachers?

The innovative practices represent major change efforts of the schools. It is reasonable to assume that inservice education programs and practices have been part of the change effort, even, indeed, an instrument to bring about the change. It is therefore appropriate to study the inservice education of these highly innovative schools. Have they made training available and what kinds of specific efforts have they made to assure training?

2. Are the innovative schools distinctly different in the extent and complexity of their innovations in operation?

Given a scale of high to low of innovativeness we can assume from the documentation process that the schools being studied are all, as a group, at the higher end of that scale. It is appropriate, however, to assume that even within that higher range of innovativeness that the schools differ from one another both in the extensiveness of the innovation as well as the complexity. It is possible to assume that a school may be highly innovative and yet limit how extensive or complex that innovation might be. A school might limit the extensiveness of the innovation yet not the complexity; or vice versa; or certainly be able to have a

highly complex as well as extensive innovation. If these differences can be determined then it may be possible to examine relationships.

3. Are the innovative schools distinctly different in the impact or leadership associated with their inservice education programs?

It is reasonable to assume that these highly innovative schools differ from one another in the overall experience impact in inservice education and the systematic leadership displayed in providing inservice education. A school might report limited overall experience impact yet not so in systematic leadership; or vice versa; or able to demonstrate high activity in both overall experience impact as well as systematic leadership in inservice education. If these differences can be determined, then it may be possible to examine relationships.

4. What are the key relationships, if any, between inservice education variables and the innovations variables?

The question of relationships between these variables is an interesting one. Is it possible that a

more extensive innovation requires more overall experience impact in inservice education or systematic leadership in inservice education or both? Is there a relationship between complexity of the innovation and the two inservice education variables? If an innovation is highly complex, does it require more of an overall experience impact in inservice education or more systematic leadership in inservice education than if it is less complex? Determining the key relationships, if any, between inservice variables and the innovation variables is of interest.

Analyses

A descriptive analysis of the inservice education practices and the innovation practices was completed in order to find the answers to research questions one, two, and three. The following hypothesis were then tested to find answers to research queston four.

H_1 A significant relationship exists between overall experience impact in inservice education (ISE-I) and extent of innovation (IP-I)

H_2 A significant relationship exists between systematic leadership in inservice education (ISE-II) and extent of innovation (IP-I)

H_3 A significant relationship exists between overall experience impact in inservice education (ISE-II) and complexity of innovation (IP-II)

H_4 A significant relationship exists between systematic leadership in inservice education (ISE-II) and complexity of innovation (IP-II)

In addition, the branching diagram analysis developed by Harris (1974) and the weighted net percentage difference (WNPD) developed by Spady (1970) were used in order to find answers to research question 4. These are techniques which allow for a multivariate analysis on simple data without elaborate statistical procedures. These techniques are described in Chapter III, and the analyses are presented in Chapter V.

Limitations of the Study

The study has some major limitations. The most important one is the concurrent time frames which were employed for both inservice education practices and innovations practices. These concurrent time frames were used even though they are logically treated as process-product related. Preliminary investigation revealed the lack of written records and/or documentation of inservice practices in schools. Immediate recall of the past year's work was available, but the validity of information about inservice practices of more than one year was questionable. Therefore, a concurrent time frame was employed based on the assumptions stated previously in the section on design of the study. This limitation is considerable, and it must be kept in mind that the simultaneous character of the events under study prevents inferring causality in any of the relationships analyzed.

Other limitations include:

1. Secondary schools have been eliminated from the study and only elementary schools are used.

2. The schools are all located in the state of Texas.

3. The previously gathered validating data on innovation were utilized with no testing for validity.

Even though these limitations affect the findings of the study, these limitations are not so major as to prevent the use of the gathered data.

Definitions of Terms

Change refers to any significant alteration in the current status of innovative instructional program operation in the schools under study.

Innovation refers to any program change which requires some alterations in knowledge and skill employed by the people most directly involved.

Inservice Education (ISE) refers to the continuing education of teachers which aids, supports, and provides the opportunity for the development and improvment of knowledge and skills which are needed for on-the-job performance.

Inservice programming refers to the total efforts in setting goals, determining strategies,

planning, and implementation of inservice education of which inservice training is a part.

Consultant refers to an individual or individuals who are acknowledged to have expertise in inservice programming and are asked to share that expertise.

Variety of consultants refers to the different types of consultants who can be used in inservice.

Amount of use of consultants refers to the estimated amount of time consultants are involved in the inservice programming.

Personnel at several levels refers to educational personnel at different levels of employment in a school district such as teaching personnel, supervisory personnel, administrative personnel, and other central office personnel.

Stages in change refers to identified stages in change strategies such as that described by Harris (1975) in which strategies are divided into three stages: (1) creating alternatives, (2) adopting, and (3) installing.

Students refers to the children in the schools who are involved in the innovation.

Voluntarism refers to the degree of freedom that is perceived by an individual in the participation in the inservice education such as that described by Miskel (1973) in reaction to an individual's perception in his job.

Organization of the Study

Chapter II is a review of the current literature regarding inservice education and innovation with emphasis upon the variables of the study.

The procedures for conducting the study are described in detail in Chapter III. This includes a description of the instrumentation, data collection, and the treatment of the data.

Chapter IV is entitled "Descriptive Findings of the Study." A descriptive analysis of the inservice practices and innovative programming practices in individualized instruction is included.

Chapter V is entitled "Relationships between Inservice Education Practices and Innovative Programming Practices." The chapter contains an analysis of the data in regard to the relationsips.

Chapter VI contains a summary of the findings and implications and suggestions for future research are also included.

The Appendices constitute the last section.

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CHAPTER II

REVIEW OF THE RELATED LITERATURE

This chapter presents a review of the literature that is related to the study. First there is an overall general review of the literature in inservice education. Next studies that support the variables chosen in this research effort are reviewed. The literature related to producing changes in schools with emphasis upon the specific use of inservice education is then discussed.

Overall General Review of ISE

The literature is more than abundant on inservice education. It is evident that continuous professional development of school staff members has been a deep concern since the assumption of state responsibility for public education to the present time. This concern is reflected in the numerous books, journals, periodicals, yearbooks, and unpublished papers that have devoted their attention to the subject of inservice education. There are well over two thousand such items

with the majority being produced after 1957 (Nicholson and Joyce, 1976).

In 1957 the National Society for the Study of Education published a yearbook that provided an overview of inservice education (Corey, 1957). This work has served as a general reference over the years and pinpoints 1957 as a time when inadequate teacher training was clearly recognized on a national level as a serious, growing problem (Harris, in press). Very little of what has been published can be considered hard research. The majority are descriptions of existing or completed inservice education projects. Comprehensive reviews of the literature exist; however, their number is limited. Between 1966 and 1976 there are eleven comprehensive reviews. These include:

- a report published by NEA (Research Division, 1966); inservice education is defined and described citing nineteen different types; a rationale is provided; barriers to inservice education are cited; evaluation procedures are discussed; and suggestions for improvement are made
- a report from Far West Laboratory (Westby-Gibson, 1967) that includes a survey of

innovations in inservice education as well as psychological and sociological research; topics include structure of the school, social setting, the process of change, and interaction between teacher and school

- a report on a project related to the continuing education of teachers (Rubin, 1969)
- two papers written in 1971 (Devore) and (Sobol) that contain descriptive findings of the cumulative research on inservice education
- a paper that reviews the literature and catalogues seventy-six problems as well as ways to motivate teachers (Ward, 1972)
- a paper (Mohr, 1971) that describes training models at different universities and the work of educational laboratories
- a review of research that studied ninety-seven inservice education programs that had evaluated their results (Lawrence, 1974)

- a review by Edelfelt (1975) of two hundred and fifty-six entries in the ERIC system
- a chapter by Edefelt and Lawrence (1975)
- a monograph by Nicholson and Joyce (1976) that is one of a series of reports on ISE inservice education

The findings of at least five of the reviews provide information about what is happening in the field in relationship to what constitutes effective practices in inservice education (Westby-Gibson, 1967; Edelfelt, 1975; Devore, 1971; Lawrence, 1974; Nicholson and Joyce, 1976).

Westby-Gibson (1967) reviewed the literature between 1950 and 1967. Her findings support the practice of teachers participating in the determination of inservice education needs and providing leadership for conducting developed programs. She states that the literature indicates that involvement of participants is the key element in the planning of any inservice. Her review is supportive of organizing inservice education to promote behavior change.

Edelfelt's review (1975) of the items in the ERIC system led him to the conclusion that involvement in planning the inservice education is important for those people who are to participate. He concludes that the way to improve inservice is through the use of self-assessment and greater collaboration among those who have an interest in inservice education.

Devore's study (1971) focuses primarily on the teacher as an individual in the process of change. Through a review of the literature he identifies change and the variables necessary to promote such change. These include:

- involvement of teachers in the planning and conducting of inservice programs
- development of on-going, self-directing programs which allow the individual to identify his needs progressively
- offering of comprehensive, well-planned programs with specific identifiable objectives
- allocation of time for inservice education that is of sufficient duration to allow for systematic skill development perfected through cumulative practice

- development of designs for inservice education which incorporate well-written objectives to ensure that proper evaluation can be carried out
- development of alternative strategies for the delivery of inservice education to provide for the differences in competencies as well as the beliefs and attitudes among educators
- the provision of trained personnel to "orchestrate" the change process.

Devore specifically identifies the involvement of teachers in planning and conducting inservice as a critical factor in effective inservice education.

The fourth study of particular interest is one completed by Lawrence and others (1974) on patterns of effective inservice education. It is one of the more comprehensive studies in the literature, and it has the distinction of being cited by a later study (Nicholson and Joyce, 1976) as the only one worthy of the name research.

The researchers were interested in discovering if any generalizations could be drawn from the research literature to indicate that some kinds of settings,

materials, and procedures are more effective than others. The review included only research on the continuing education of employed teachers, that is, in-service education (1974).

Only carefully evaluated studies were included. Ninety-seven were found to fit the criteria of containing some sort of "validity safeguard." Profiles of the ninety-seven studies were drawn up and analyzed according to fourteen categories. The categories were situational design, mediation, influence agent, objectives for teacher change, complexity of objectives, kinds of measurement used, research/evaluation and planning, and seven categories dealing with approaches to management of inservice activities.

Four out of five of the studies included in the research report significant changes in teacher behavior. In reflecting on the findings, Lawrence states that different empirical studies in educational research seldom show as strong agreement as was discovered in these findings. He described the message as being very clear: (page 17)

> The inservice programs that have the best chance of being effective are those that involve teachers in planning and managing their own professional development activities, pursuing personal and collective objectives, sharing, applying new learnings, and receiving feedback.

None of the studies was a teacher center program, reported involving a teachers' professional organization in the planning or conducting of the program, or mentioned parent involvement. Only six studies dealt with self-instructional materials. It is Lawrence' opinion that the rate of success of the ninety-seven programs strongly suggests that a great variety of objectives can be accomplished through inservice education.

This study reaffirms much of what has been long advocated through the literature (Harris, in press). Teacher positive attitude, active participation, differentiated experiences, continuous programmatic efforts and freedom of choice are all consistently associated with effective inservice education.

Nicholson and Joyce (1976) reviewed more than two thousand books, periodicals and unpublished papers in order to produce a report that could present an analysis of the literature related to inservice education. The monograph which they produced is one of a series of five reports on inservice education. The analysis of the literature was used to identify data needs and major issues in inservice education. The procedures which they used were:

- The literature was identified and read
- The literature was grouped into categories of topics discussed. Five areas emerged (varieties of inservice education, collaborative arrangements, value orientations toward inservice education, definitions of inservice education and other issues)
- Issues were identified and discussed with consultants
- Substantive areas were selected to be the structure of the report
- Analytic essays were written, discussed with consultants, revised, and edited.

Nicholson and Joyce drew two dominant conclusions from the review of the literature (1976). These are:

> The process of inservice education has been neglected in the research literature in favor of the content. The literature has been concerned almost entirely with asking the question of what is there in new programs to the exclusion of asking why and how programs succeed or fail.
>
> Traditional inservice education programs have consisted almost entirely of information gathering activities rather than utilization of the information or the practice of techniques.

In addition, they reported that the literature reveals that a variety of contexts are present for the delivery of inservice education. They conclude that any comprehensive program of inservice education should give consideration to the use of each context. They also found that collaboration between agencies who have an interest in inservice education does occur although it is difficult to determine its extent or success. The literature was found to be extremely limited in this area. Nicholson and Joyce (1976) conclude that properly structured collaborative arrangements might well result in better quality teacher training programs because the bulk of teacher competence is acquired in service.

Evaluation and incentives are identified in their study as important components in any inservice education design. Neither a systematic method of evaluation nor a comprehensive system of incentives were found in the literature. The majority of incentives which they found were oriented to credentials and salary. They conclude that new alternatives are needed for both evaluation and incentives.

Incentives is an aspect of inservice education that is persistently discussed in the literature. Much

of the literature emphasizes financial rewards as well as credit toward college degrees/certification (Nicholson and Joyce, 1976; Vanderpool, 1975; Yarger, 1974) as the motivation for participation in inservice education activities. However, Nicholson and Joyce (1976) found that money is not as important a factor as time in the provision of incentives. Edelfelt (1976) states:

> Inservice education is a part of a teacher's regular teaching load. This idea suggests more than released time. It affirms that study, exploration, development, and learning are integral parts of professional practices and should be a legitimate part of the teacher's regular responsibilities.
>
> . . . Whether extrensic or intrinsic, rewards to all who participate in inservice education should be made more clear and precise.

Nicholson and Joyce (1976) conclude after their review of the literature that the basic flaw in the traditional incentive scheme is that the means (accumulation of inservice units) has replaced the end (improved professional performance).

This overall general review of the literature indicates that it is voluminous and haphazard with the majority of works being descriptions of completed projects (Nicholson and Joyce, 1976). Nevertheless it should be noted that information is available about what is happening in the field in relationship to what constitutes effective practices.

Studies that Support the Variables

There were four variables briefly discussed in Chapter I. Two are related to inservice education (overall experience impact in inservice education and systematic leadership in inservice education) and two are related to programming (extent of innovativeness and complexity of innovation). The reviews which follow provide a brief summary of studies on each.

Overall Experience Impact In Inservice Education

The overall experience impact in inservice education involves three major components. These are (1) the experience itself, (2) the level of the experience, and (3) the consultant who provides or conducts the experience. The sum total of these components provides an estimate of the influence of the overall inservice experience.

Experiences. There are many references in the literature to experiences in inservice education. Many lists of the different types of activities and experiences exist (NEA Research Division, 1966; Edelfelt, 1975; Lawrence, 1974) as well as research and written

opinion concerning specific activities (Taylor and others, 1958; Shaftel and Shaftel, 1967; Coody, 1967; National Society for the Study of Education, 1976). Although the workshop is described as being the most widely used experience (Nicholson and Joyce, 1976), the variety of experiences reported in the literature is quite comprehensive.

Active involvement in the experience and variety of experience are supported throughout the literature (Emmer and Millett, 1968; Odom, 1974; Lawrence, 1974; Landrith, 1977). Lawrence, (1974) found that inservice education programs that have differentiated training experiences for different teachers are more likely to accomplish their objectives than programs that have common activities for all participants. He also reported that inservice education programs that emphasize demonstrations, supervised trials and feedback are more likely to accomplish their goals than are programs in which the teacher is expected to store up ideas and behavior prescriptions for a future time.

Harris (1963) was one of the first researchers to attempt to describe activities differentially and to

analyze each one in an estimate of its "level of experience impact." An estimate of a level of impact of a specific experience is based on crude estimations of potential influence for learning. Harris and Bessent (1969) present a continuum of activities expressed in terms of the extent to which learning is influenced. When low impact activities such as lecture or demonstration are utilized, outcomes in the cognitive domain are more easily reached. Likewise, when high impact activities such as role playing or guided practice are utilized, outcomes in the affective domain are more easily reached. Feedback and interaction are cited as key elements in differentiating high and low experience impact activities.

This work is further extended into a discussion of the relationship of basic activities for inservice education to sensory involvement, group size, type of objectives and experience impact (Harris, in press). Characteristics of activities that make a difference in the impact of the activity are cited. These are (1) extent to which the various senses are involved; (2) multiple interactions; (3) extent to which character of the experience is controlled and has structure; (4)

extent to which the experience is focused and has internal consistency; and (5) extent to which the experience calls for active use of input.

Consultants. Key to any experience is, of course, the person or persons who conduct the program. The literature reports a variety of consultants such as teachers, central office personnel, university personnel and/or the private contractor (Nicholson and Joyce, 1976). This variety comes from both within as well as without the system.

The trend of the literature indicates that teachers and central office personnel have better success than university personnel or private contractors (Nicholson and Joyce, 1976; Lawrence, 1974). These findings are supported by Mann (1975) in that he found that the best trainers are those from within the client system who have established credibility and possess some inside knowledge of the system. Reilly and Dembo (1975) found that the experienced teacher has greater credibility as a trainer than those from outside the organization.

Level of the Experience. Lawrence (1974) found at least three major classifications or levels of

experiences within the ninety-seven studies which he reviewed. These were represented by seventy-one that had major objectives that involved changes in overt teaching performance, forty with objectives concerned with change in teacher attitudes and thirty with objectives related to information or cognitive input. He found that those experiences that deal with changing concepts or enlarging the store of information have a high rate of realization. Those that deal with overt teaching behaviors are less often realized while change in teacher attitude is the least often realized. Lawrence's findings are consistent with those of Devore (1971) who reported that programs that aim toward improvement of knowledge have a high rate of success. Devore also reported a high rate of success for those that aim toward improvement of practice or performance.

Nicholson and Joyce (1976) reported that the literature reveals that inservice experiences are aimed toward several levels. Their comprehensive review of the literature supports Lawrence's findings. One general conclusion which they present is that programs that aim toward the improvement of knowledge tend to be more successful than those that aim toward improvement in

teacher performance. They also report that modification of teacher attitude appears to have a low rate of reported success.

Harris (1975) describes three stages of change that can lead to an installed innovation. These are: (1) the creating of perceived alternatives to present practices, (2) the adopting of an alternative; and (3) the implementing of the new practices in order that it becomes an established part of an operating system. It is interesting to note that although there are multiple and numerous references to the changes to which the various inservice experiences are aimed, none are referred to in relation to the stages of change that lead to installed innovation such as suggested above. Obviously the levels of the experiences as reported in the literature can be easily related to the three stages; however, it is of interest to note that none are couched in the language of change theory.

Systematic Leadership in Inservice Education

Systematic leadership in inservice education involves four major components. These are (1) planning, (2) resources that are devoted to the efforts, (3)

variety of program content, and (4) the amount of perceived choice in ISE experience or voluntarism. The sum total of these components provides an estimate of the amount of systematic leadership that is given to the inservice education effort.

Planning. In the literature planning is obviously considered to be a critical factor in effective inservice education. Almost any work in inservice education refers to planning as a matter of great importance (McDonald, 1977; Harris and Bessent, 1969; Nicholson and Joyce 1976; Berman and McLaughlin, 1975; Howey, 1976; Lawrence, 1974).

There are persistent references in the literature to both teacher involvement in planning as well as total staff participation. As a result of Westby-Gibson's review of the literature between 1950 and 1967 (1967), she suggests that teacher involvement is a key element in planning inservice education programs. Her findings support teacher participation in the determination of inservice education needs and teacher leadership in the conducting of the developed programs. Lawrence (1974) found that the inservice education

programs that have the best chance of being effective are those that involve teachers in planning and managing their own professional activities.

Edefelt's review (1975) supports these findings, and he encourages program determination by those to be involved. A study by Wilen and Kindsvatter (1978) found among other things that teachers need to be directly involved in planning the goals, content, and instructional approach of inservice education programs.

There is evidence in the literature that teachers want to be involved. This is most obvious in connection with the stand of teacher organizations (Edelfelt and Johnson, 1975) who argue not only for teacher involvement but also for control of inservice education by teacher organizations through collective bargaining agreements.

Total staff participation in planning inservice education is the other persistence reference in the literature related to involvement (Westby-Gibson, 1967; Lippitt and Fox, 1971; Nicholson and Joyce, 1976). It is suggested that greater commitment to continued self-improvement will result if the total staff is involved in planning inservice education programs

(Lippitt and Fox, 1971) and that shared goal setting and decision making reinforce the point that both teachers and administrators are educators and collegues in need of growth (Furey, 1978).

A study of federal programs designed to support educational change found that the active support of principals combined with the general support of district officials and the teacher's willingness to spend extra effort on the project increase the chances of teacher change (Berman and McLaughlin, 1975). This finding along with the others can be considered to be sufficient rationale for administrative involvement and leadership along with teacher involvement in the planning of the inservice education program.

Resources. Orrange and Van Ryn (1975) state the obvious:

> Effective programming requires time to develop it and money to support it.

Bessant and Harris (1969) agree:

> . . . it is fundamental that one does not get something for nothing. Inservice education involves cost in terms of time and money for staff, materials and facilities . . . .
>
> . . . Furthermore, budgetary allocations of significant amounts to provide for released time, visiting specialists, and materials must be provided.

There is general agreement in the literature that resources (both time and money) are essential, and that in the past the funding has been far from sufficient. Expenditures for ongoing professional training in education are far below that spent in business and industry (Stewart and Hart, 1972; Howey, 1976; Lutz and Ferrante, 1972). There is also strong evidence that what is being spent is not coming from public education; rather it is coming from external sources which suggests obvious problems if the external sources are no longer available (Yarger, 1974).

It has been suggested that the state should assume major responsibilities for the support of in-service education (Orrange and Ryn, 1971; Howey, 1976). Educators have had difficulty in securing state support. One reason may be their difficulty in demonstrating increased effectiveness as a result of professional training activities.

> . . .resources will have to be earned from state legislatures and the people on the basis of demonstrated successes in bringing about the kind of teacher education too long mythologized in the literature (Gress, 1977).

The work of Nicholson and Joyce (1976) supports this point of view. They report that while lack of adequate

financial support is suggested by educators as a major hindrance to inservice education, legislators indicate that information is lacking about the effectiveness of inservice education and that such information is necessary before new sums of money can be committed.

Program Content. Studies related to the content of inservice education programs have a tendency to focus on purpose and intent (Yarger, 1976; Harris, 1977, Lutz, 1976) as well as the absence or presence of specific objectives (Peck and Tucker, 1973: Ellis, 1975; Feinberg, 1975; Vaughn, 1975). There is some evidence as well as expert opinion that objectives need to be clearly stated and specified (Feinberg, 1975; Vaughn, 1975; Peck and Tucker, 1973; Brimm and Hy, 1974; Bishop, 1977).

There is general agreement in the literature that inservice education programming content should be specifically related to teacher needs. At least two studies (Williams, 1976; Timms, 1975) indicate that inservice education programs should be content related for increased effectiveness. A study by Monahan and Miller (1970) indicates that the major outcome desired

by teachers is the improvement of teaching skill. Yarger and Leonard's findings (1974) support this same conclusion.

Bishop (1976) suggests at least three dimensions that should be considered before deciding inservice education programming content. These are (1) the human dimension, (2) the task dimension, and (3) the institutional dimension. Inservice education that is designed to eventually encompass all three dimensions is necessary if it is to impact instruction significantly.

Voluntarism. Carthel (1973) demonstrated a striking relationship between "voluntariness" and inservice education programming effectiveness in his study of the use of Taba strategies (a process approach to systematically develop thinking skills in children) by teachers after intensive inservice education in a large urban school district. Harris and Bessent (1969) contend that learning experiences will be impacted by a given activity based on three characteristics of the situation. One of these characteristics is the extent to which the context can be controlled by the learner. In Lawrence's (1974) of ninety-seven studies that were carefully evaluated, he found that teachers are more

likely to benefit from inservice programs in which they can choose goals and activities for themselves as contrasted with programs in which the goals and activities are preplanned and they have little, if any, choice. There are persistent references throughout the literature to the importance of free choice among many alternatives in inservice education (Yeatts, 1976).

Extent of Innovation and Complexity of Innovation

Diffusion of innovation is, of course, a strategy for change, and it can be an important step in the management of change (Rogers and Svenning, 1969). It involves (1) the promotion of a specific change, (2) a change agent, and (3) trial and evaluation by the person or persons adopting the change (Rogers, 1962; Rogers and Shoemaker, 1971).

The sequence of steps in the process of adoption of an innovation is described by Rogers as being (1) knowledge, (2) persuasion, and (3) decision (Rogers, 1972). Information assumes an important role in at least two of the steps (knowledge and persuasion) and the entire strategy can be said to rely heavily upon information sources that are derived through research and development (Rogers, 1972).

The literature reflects that there are varying rates of adoption and diffusion of educational innovations (Carlson, 1965) as well as various degrees of innovation assimilation (Lin and others, 1966). Schools use the diffusion of innovations model in order to bring about quick and widespread adoption of new materials and methods of instruction. Apparently simple, less complex innovations have been widely adopted; but more complex, extensive innovations such as team teaching or flexible scheduling have not (Harris, 1975).

Changes in Schools and the Use of Inservice Education

There was a time in our society when there was a debate as to the inevitability of change (Bennis, Benne, Chin, 1969). That time appears to be over. Robert Oppenheimer (1955) captured the essence of the change which permeates our society in a now famous statement,

> . . . one thing that is new is the prevalence of newness, the changing scale and scope of change itself, so that the world alters as we walk in it, so that the years of a man's life measure not some small growth or rearrangement or moderation of what he learned in childhood, but a great upheaval.

Change can just happen or come about naturally. It can also be planned. Planned change is described by Benne and Chin (Bennis, Benne, and Chin, 1969) as being an attempt to bring about change in a conscious, deliberate and intended manner in which there is the conscious utilization and application of knowledge as an instrument or tool for modifying patterns and institutions of practice. The quantity of writing regarding "planned" change is enormous. As early as 1962, Everett Rogers reviewed a large number of articles in the area of innovation diffusion. The review was then revised (Rogers and Shoemaker, 1971) into a review of over 1500 articles. The writing and research has continued to expand over the years.

In the educational world, planned change or innovation has been a topic of constant discussion (Baldridge and Deal, 1975). If the past fifty years of education is examined, it is relatively easy to identify the efforts at planned change through the implementation of many new programs. Harris and others (1979) list more than twenty-five new programs during this period of time that represent major efforts at innovation. Examples of such innovations are nongraded schools (Goodlad

and Anderson, 1962; Anderson, 1961; Brown, 1963); team teaching (Shaplin, 1964); and the middle school concept (Alexander, 1974). Few of the innovations appear to have been institutionalized (Aslin and DeArman, 1976; Mosteller, 1976); however, genuine trends do exist and major changes appear to be emerging slowly but persistently (Harris and others, 1979).

Certainly the emergence of these innovative efforts is the result of many factors, but high on the list in the need for schools to cope and meet the demands made upon them (Cawelti, 1967). The statement by Jacqueline Wexler ten years ago is as viable today as it was then (Leeper, 1969).

> Probably at no time in the history of the world has so much been expected, indeed even demanded, of our schools. Ironically at the same time, the schools at every level are being condemned for their past and present inabilities to cope with the complex problems of our times.

Inservice education programming has a history of being a primary means to bring about change in our schools (Hull, 1975). Ralph W. Tyler (Rubin, 1971) describes inservice education as having begun in the United States in the 1840's during a time in which there was no required specific training in order to be a teacher. Evening short courses or two to three day

institutes were held in order to provide teachers a way to bridge the gap between what they knew and what was expected of them. In this sense, inservice could be described as having been remedial in order to remedy gross deficiencies in pre-service preparation. Tyler continues to trace the history of inservice from this point to the 70's describing the various influences which have contributed to the major trends in inservice over the years. It is evident in his description that with the exception of the ten years after WWI and WWII when the emphasis in inservice became focused on fulfilling college degree requirements and certification that the major emphasis in inservice training has always been upon producing change.

Summary

Change and innovations have been a constant concern in schools for many years. Inservice education has been a primary means of producing the desired change. The literature is full of many references to the poor quality of much of the inservice delivered. However, it is evident that despite these many references, the quality characteristics of inservice are known.

Overall experience impact in inservice education appears to be an important concept discussed in the literature. "Quality" experiences would seem to be dependent in part upon extensive overall experience impact that would include a variety of experiences that are differentiated for the learner. Other characteristics would include experiences led by consultants both within and without the system, experience on different levels, and active involvement of the participant.

Systematic leadership in ISE is another persistent concept discussed at great length in the literature. It is apparent a high degree of systematic leadership in providing inservice experiences is considered necessary as a "quality" characteristic. This includes extensive involvement of both teachers and total staff in planning with support of district-wide officials; the allocation of resources, the directing of efforts toward improvement of teaching skills, and the option of free choice by the participants among many alternatives.

The diffusion of innovation is a model that schools have frequently used because of the speed with which new information about methods and materials can be

disbursed. It appears that simple innovations have been widely adopted but more complex ones have not.

Because people are the major resource in any school (Harris in press), the heavy reliance upon people in building quality education programs makes the improvement of such people critical. Inservice education is the primary vehicle for such improvment (Calhoun, 1975) and for bringing about desired changes.

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CHAPTER III

RESEARCH PROCEDURES

Introduction

All data collected and analyzed were related to inservice education practices and innovative programming practices in the Demonstration Schools for Individualized Instruction (DSII) network in Texas. Those data were gathered and analyzed in this research project utilizing sources already available in the Texas Education Agency plus responses on questionnaires provided by principals of these demonstration schools. This chapter describes the research procedures employed including instrumentation, sources, type, and manipulation of data.

The data were gathered by two separate efforts. The first was a survey designed to generate data reflecting the inservice practices of all elementary schools in the DSII network. The second was a review of objective reports documenting the innovative programming practices in the schools that responded to the inservice survey.

This chapter is divided into four sections. The first section describes the population studied. The second section details the survey of DSII network programming practices. This includes (1) documentation and instrumentation, (2) data gathering procedures, and (3) variables. The third section details the survey of DSII network inservice education practices. This includes (1) instrumentation, (2) data gathering procedures, and (3) variables. The fourth section discusses the treatment of the data.

Population

All elementary (K through 6) schools chosen as 1976 Demonstration Schools for Individualized Instruction (DSII) were selected as the population to be studied. The DSII network was created by the Texas Education Agency in 1971. It began its operation in January, 1972, with thirty-five schools participating. The participants of the network are individual schools or programs that are selected on a yearly basis. Each selectee must have an effective program in individualized instruction, and the effectiveness must be validated through self-report, on-site evaluation by a

visiting team, plus review by a third party, a selection panel. Each program is carefully documented as representing a high quality effort at individualization of instruction before being finally selected for the network.

The network defines individualized instruction as a system for organizing learning experiences around the individual needs of students, whether working alone or in groups.

> It is an approach for providing experiences which are compatible with each student's particular style of learning, and for incorporating the student's skills and abilities in terms of knowledge acquired and desired (TEA, 1976).

The instruction within each program chosen for the network has to meet three principle conditions. These are: (1) a diverse arrary of goals and objectives; (2) monitoring procedures that provide information about current status; and (3) alternative methods to reach each objective for any given learner. The following is a list of the features which must be evident within each program:

1. a flexible, workable system of intra-class grouping

2. teachers and students utilizing a variety of materials selected and assigned after careful diagnosis of the individual student's needs

3. differentiation of assignment based on careful planning and containing an efficient system of record-keeping

4. student autonomy with each student having played a part in setting objectives and establishing the activities to be undertaken to reach the objectives

5. tutoring (teacher-student, and student-student) in order to help the individual student learn.

In addition, it is required that all programs must be in operation at least one year before nomination and consideration. The effect of this is that, if chosen, a program will have been operating a minimum of two years before becoming a part of the network because the selection procedure requires a years' period of time.

The 1976 network had a total of 76 programs representing 102 elementary schools. The number of programs differs from the number of schools because several schools combined efforts into one operating program.

If the 1976 DSII network elementary programs are examined according to location within regional education service center boundaries, it becomes obvious that the programs were widely distributed through the state (see Appendix C for location of regional service centers in Texas and Exhibit 3.1). Only four regional service centers did not have at least one located within their boundaries. Many of the programs had more than one subject individualized (Exhibit 3.2) while twenty-nine of the seventy-six programs had all subjects included as individualized. Reading and mathematics were the primary subjects when the program did not include all subjects.

DSII Network Innovative Programming Practices

Documentation and Instrumentation

Information on innovative programming practices was gathered from the documentation which provided the basis for the school's selection as a DSII participant. The process which the DSII uses to determine a school's eligibility and final acceptance or rejection

Exhibit 3.1

Education Service Center Region Number	Total Number of Programs in 1976 DSII Network	Number of Elementary Programs	Number of Elementary Schools
I	3	2	8
II	3	1	1
III	2	2	2
IV	12	9	9
V	0	0	0
VI	0	0	0
VII	4	4	4
VIII	1	1	1
IX	0	0	0
X	12	10	10
XI	12	4	4
XII	8	4	4
XIII	11	8	8
XIV	0	0	0
XV	4	3	15
XVI	5	5	13
XVII	2	0	0
XVIII	15	13	13
XIX	5	5	5
XX	5	5	5
TOTALS	104	76	102

Exhibit 3.2

Subjects That Are Recognized as
Elementary Program Components

Subject	Number of Elementary Programs in which the Subject is Recognized as a Component
Reading	24
Mathematics	21
Language Arts	13
Early Childhood	09
Special Education	5
Learning Resources Center	4
Science	3
Social Studies	3
Bilingual	3
Gifted and Talented	2
Music	2
Career Education	1
Physical Education	1
Perceptual Skills Training	1
Art	1
All Subjects	29

into the network is carefully designed to allow them to select only high quality efforts at individualization of instruction. The following documentation is required: (1) a nomination report completed by someone outside of the school who believes that the program qualifies; (2) a report from the school itself detailing how they meet the specific DSII standards, (this report consists of three identical forms filled out separately by two teachers and the principal); (3) a report from a team of people who verify through on-site visitation the existence and quality of the program (see Appendix A for sample forms).

Nomination Process. The nomination procedure eliminates many programs from consideration, as does the school's own report. An examination of the sample forms for these two steps of the process reveals why. Both forms have the specific requirements for qualification and final selection. The school report is also quite detailed. Specific objective data are required particularly on the school report. The network has discovered that after being nominated and sent a report to complete, many schools will eliminate themselves because they realize that they do not have the objective evidence to support their qualifications for participation.

The Texas Education Agency staff sends a school report form to each school nominated. They examine the returned self-reports to determine if it appears that the school might meet criteria. Many schools do not meet criteria, and they are eliminated at this point.

On-Site Review. For those schools who appear to qualify based on self-report data, a visitation team is sent to the school for verification by on-site observation. These teams are organized by the regional service centers. Each is composed of one public school administrator, one university or college person, one public school classroom teacher, and one service center person. The team uses objective instruments to gather data individually (Appendix B) on the extent of existence of the specific programming practices. This process takes one to two days of on-site visitation by the team in which they interview personnel in the school, observe the program in process, talk with children and any available parents and/or volunteers, study materials on hand, examine curricula and test information. Each member of the committee completes an individual report. The individual reports are compiled

into one report by the team. Information is not available to document disagreements among the visiting team, however, consensus must be reached by team members on the one report. This is submitted to the TEA as the documentation for meeting the criteria for acceptance into the network. This report is entitled the Team Observation Report.

Selection Review Process. When the Team Observation Reports are returned to the Agency they are read by a committee appointed by the DSII Steering Committee. The 1976 committee was composed of sixteen people drawn from public school administrators, university and college personnel, classroom teachers, ESC representatives and Agency personnel in Texas. They convened for several days and used the following procedure for selection from the 180 programs that had been visited:

1. The sixteen members were divided into teams of four.

2. Each team of four was given folders representing forty-five programs. Each folder contained (1) the original nomination form, (2) the three self-reports and (3) the Team Observation Report from the on-site visitation.

3. Each member of the team read the folders individually without consultation with the other team members. They each graded the programs on a one to four point basis in terms of meeting the criteria for selection. The Team Observation Report was, of course, the major item reviewed. The other information in the folder was used for reference.

4. Each program that received a grade of four from each of the four team members was automatically selected for participation in the network. Any program that received less than a grade of four from any of the team members had to be reviewed individually by all sixteen committee members and discussed in large group session. Concensus was reached regarding each recommendation. Information is not available to document disagreements.

One hundred and four programs out of the one hundred and eighty were selected for participation in the 1976 DSII network.

Data Gathering - Innovation Practices

Data were gathered for use in this study from the Team Observation Report in order to yield a descriptive analysis of the innovative programming features and

to answer research questions as well as test specific hypotheses. Fifty-two items from the Team Observation Report were used. Six were not used because they consisted of written narratives calling for subjective impressions. An examination of the Team Observation Report reveals that the fifty-two items are grouped according to the following clusters which represent the key criteria of individualization of instruction that were developed as bases for selection of programs for the DSII network:

1. Selection of Objectives/Materials
2. Learner Involvement
3. Learner Autonomy
4. Pacing
5. Differentiation of Assignment
6. Staffing Patterns
7. Teaching Strategies
8. Classroom Arrangement
9. Materials
10. Facilities

The majority of items state an element of individualized instruction which the visiting team had to mark on a scale of 1 to 5 as to evidence of its presence. Marking

Exhibit 3.3

Summary of Variables in Innovative Programming Practices and Data Sources

DESCRIPTIVE STUDY

Code	Variable	Source* - Item Number
IP 1	Objectives	1a, b, c, d, e, and 16
IP 2	Learner Involvement	2a, b, c, d, e
IP 3	Learner Autonomy	3a, b, c, d
IP 4	Pacing	4a, b, c, d
IP 5	Differentiation of Assignment	5a, b, c, d, e, f, g, h
IP 6	Varying Staffing Patterns	6a, b, c, d, e, f, g, h
IP 7	Varying Teaching Strategies	7a, b, c, d, e, f, g, h
IP 8	Flexibility in Classroom Arrangement	8a, b, c, d
IP 9	Materials and Equipment	9, 10, 11, 12
IP 10	Facilities	13a, b, c, d, e, f, g, h

STUDY ON RELATIONSHIPS

Code	Variable	Source
IP-I	EXTENT OF INNOVATION	IP-I = IP 2+IP 3+IP 5
IP 2	Learner Involement	
IP 3	Learner Autonomy	
IP 5	Differentiation of Assignment	
IP-II	COMPLEXITY OF INNOVATION	IP-II = IP 6+IP 7+IP 10
IP 6	Varying Staffing Patterns	
IP 7	Varying Teaching Strategies	
IP 10	Facilities	

*Source is Team Observation Report

a number 1 indicated little or no evidence present in the program studied. Marking a number 3 indicated that the team discovered the element as a feature sometimes found in some parts of the program. Marking a number 5 indicated that solid evidence was present showing that this element was a striking feature of the program. The Team Observation Report can be closely examined in the Appendix for specific items. Items 1 through 13 and 16 on the report were used. Responses that require a written remark on items 3 through 8 were not used.

Variables in Innovative Programming Practices

There are two kinds of variables derived from the DSII network innovative programming practices. The first are those related to the descriptive analysis and the second are those related to the study on relationships. See Exhibit 3.3 for a summary and data sources of the variables in innovative programming practices.

Variables Involved in the Descriptive Study on Innovative Programming Practices. These variables were derived from the criteria for acceptance set by the DSII network. The source of data for the variables was the Team Observation Report for the DSII network. Such a

report was completed on each school by an on-site visitation team. These variables were described in Chapter I. The following is a further description with a specific detailing of the source of data for each variable:

1. Objectives (IP 1)

The curriculum is based on objectives that are clearly defined. Materials used by the student are either selected by the learner or school officials to meet the objectives. The data for this variable were secured from items 1a, 1b, 1c, 1d, 1e, and item 16 from the Team Observation Report.

2. Learner Involvement (IP 2)

Students have a choice of tasks and are able to make suggestions about ways to accomplish a task. They have a positive attitude about school and help other students in the class. The data for this variable were secured from items 2a, 2b, 2c, 2d, 2e, from the Team Observation Report.

3. Learner Autonomy (IP 3)

Students are free to move about while working and sometimes score their own work. They are able to select some of their own learning activities and can exercise

initiative in planning and implementing those activities. The data for this variable were secured from items 3a, 3b, 3c, 3d from the Team Observation Report.

4. Pacing (IP 4)

Students proceed at their own rates. Time is allocated to a learning activity, and it is adjusted to the needs and interests of each student. When a student demonstrates mastery of a skill or understanding of a subject, he or she does not have to perform tasks designed to teach that skill or develop the understanding. Opportunities are available for students who complete or demonstrate mastery of specified levels of work to move ahead to the next level or to have broadened experiences. The data for this variable were secured from items 4a, 4b, 4c, 4d from the Team Observation Report.

5. Differentiation of Assignment (IP 5)

Students work on different tasks with different kinds and levels of materials. The teacher varies the directions and assistance for different students, and students in the same program pursue different objectives. There are opportunities to recycle with different materials and approaches in tasks where a student's understanding was insufficient to go on to new objectives. A

broad spectrum of activities is offered for each objective and learning activities are student selected. The data for this variable were secured from items 5a, 5b, 5c, 5d, 5e, 5f, 5g, 5h from the Team Observation Report.

6. Varying Staffing Patterns (IP 6)

Two or more teachers plan a segment of work. Parents and aides are available to work with students. Other people such as curriculum specialists, consultants, and librarians are available. Two or more teachers are responsible for working with the students. One teacher has responsibility for the program. The data for this variable were secured from items 6a, 6b, 6c, 6d, 6e, 6f from the Team Observation Report.

7. Varying Teaching Strategies (IP 7)

Students work independently as well as in large group and small groups. Cross-age tutoring and peer tutoring are used. Groups are reformed periodically and on occasion one teacher works with one student. The data for this variable were secured from items 7a, 7b, 7c, 7d, 7e, 7f, 7g, 7h from the Team Observation Report.

8. Flexibility in Classroom Arrangement (IP 8)

Provisions are made for a variety of classroom arrangements including small group, large group, and individual

work. Instructional materials are easily accessible. The data for this variable were secured from items 8a, 8b, 8c, 8d from the Team Observation Report.

9. Materials and Equipment (IP 9)

Many types of materials are available including (1) textbooks and library books, (2) audiovisual equipment that is used in a manner that tends to individualize instruction, (3) commerical and teacher made exercises and games. The teacher made materials are things such as learning packets, unipaks, mini-modules, contracts, learning stations, learning prescriptions, and other items which help to individualize instruction. The data for this variable were secured from items 9, 10, 11, 12 from the Team Observation Report.

10. Facilities (IP 10)

There is flexibility and variety in the use of facilities. Pupils have access to the learning resource center and materials during a variety of times. Materials and accompanying equipment are circulated freely to the classrooms. The librarian serves as a team member in planning and implementing the varied instructional experiences involving materials and their use. Supervised laboratories and shops are freely accessible at a

variety of times. The data for this variable were secured from items 13a, 13b, 13c, 13d, 13e, 13f, 13g, 13h from the Team Observation Report.

The data generated from these sources were transcribed to IBM computer cards. Descriptive statistics were generated by computer using SPSS by Nie and others. The results are reported in Chapter IV.

Variables in Innovative Programming Practices Involved in the Study of Relationships. These variables are the result of combinations of part of the variables involved in the descriptive study. They were described in Chapter I. The following is a further description with a specific detailing of the source of data for each variable:

1. Extent of Innovation (IP-I)

This variable represents a combination of the variables labeled learner involvement, learner autonomy and differentiation of assignment involved in the descriptive study under innovative programming practices. Not only do students have a choice to task and are able to make suggestions about ways to accomplish a task, but they work on their own exercise initiative in planning and implementing their objectives and activities. They are

able to select some of their own learning activities, and they have a positive attitude about school. They work on different tasks with different kinds of and levels of materials. They help other students in the class and accept help from others. Directions and assistance from the teacher is varied and students in the same program pursue different objectives. The data for this variable were secured from items 2a, 2b, 2c, 2d, 2e, 3a, 3b, 3c, 3d, 5a, 5b, 5c, 5d, 5e, 5f, 5g, 5h from the Team Observation Report.

2. Complexity of Innovation (IP-II)

This variable represents a combination of the variables labeled varying staffing patterns, varying teaching strategies, and facilities involved in the descriptive study under innovative programming practices. Teachers vary their duties based on skills and need of the students. Two or more teachers are involved in planning work with the students, and in doing the actual work with them. One teacher has responsibility for the program and outside help is available to the teachers in the form of parents and aides being available to work with students as well as curriculum specialists, consultants, and librarians. Teaching strategies are varied

using independent, large group, small group work. Cross-age and peer tutoring are used while occasionally one teacher works with one student. There is flexibility and variety in the use of facilities, with a specific emphasis upon pupil access to a learning resource center. The data for this variable were secured from items 6a, 6b, 6c, 6d, 6e, 6f, 7a, 7b, 7c, 7d, 7e, 7f, 7g, 7h, 13a, 13b, 13c, 13d, 13e, 13f, 13g, 13h from the Team Observation Report.

DSII Network Inservice Education Practices

Instrumentation

A survey instrument was designed in order to collect data that would yield a descriptive analysis of the schools' inservice practices. After the first draft of the instrument was complete, it was used and critiqued by a group of forty-five persons who were supervisory and administrative personnel from numerous public schools. These persons all had some amount of responsibility for inservice education. Revision was made on the basis of their input in conjunction with expert opinion from two professors at The University of Texas

at Austin. Revision was undertaken to include a new set of items involving incentive and motivation at the suggestion of a committee member. These items were generated from a survey of seventeen teachers who had been nominated from seventeen school districts as outstanding teachers. The changed instrument was then submitted to fifteen principals who used it to survey their own building's inservice education practices. They critiqued the instrument, and it was once again revised. Principals were chosen because they had been determined to be the ones who would complete the questionnaire in the data collection in the DSII network schools. It was then submitted in final form to five principals, and it was revised based upon their input and expert opinion.

The forty-five supervisory and administrative personnel each represented individual school districts from a fifteen county region in Central Texas. The experts were three professors at the University of Texas at Austin. They reviewed and suggested improvements both before the instrument was initially designed as well as during the process of critiquing and correcting. The principals who used and critiqued the instrument

represented schools in both large and small districts in Central Texas, and their inservice activities were estimated to range on a continium from little activity to a great deal of activity.

The resulting instrument is entitled "Inservice Programming Practices," and a copy is in Appendix A. It consists of eighty items. They are clustered under the headings of (1) general format, (2) consultants, (3) planning, (4) resources, (5) programming content, (6) incentive, (7) activities related to DSII programming, and (8) general information. Sixty-one items relate specifically to inservice practices. Nine items relate to incentive and motivation for participation. Four items relate to impact of inservice activities upon programming. Six items can be classified as general information. Examples of items from the instrument can be seen in Exhibit 3.4.

Basically the instrument is designed to answer the following questions:

1. What types of experiences have the faculty had that was part of planned inservice? How many times were those experiences provided, and when were they provided?

Exhibit 3.4

Examples of Items From the Instrument
"Inservice Programming Practices"

GENERAL FORMAT OF INSERVICE EDUCATION PROGRAMMING

13. Circle the number which indicates the type of participation in the inservice programming.

Never Voluntary	Sometimes Voluntary	Often Voluntary	Almost Always Voluntary	Always Voluntary
1	2	3	4	5

CONSULTANTS

How many times were each of the following types of consultants used during the past year? Circle the designation which indicates the number of times a consultant was used.

	None	1-3 times	4-6 times	7-10 times	over 10 times
26. Education Service Center	A	B	C	D	E
27. University or College	A	B	C	D	E
28. Private Agency	A	B	C	D	E
29. Teacher from your own building	A	B	C	D	E
30. Teacher, but not from your building	A	B	C	D	E
31. Central Office Staff	A	B	C	D	E
32. Other (describe)_____	A	B	C	D	E

PLANNING

	Never	Some-times	Often	Almost Always	Always
36. Does planning for inservice programming take place on the district level?	1	2	3	4	5
37. Does planning for inservice programming take place on the campus level?	1	2	3	4	5

2. Who delivered the inservice, and how did they deliver it?
3. What amount of freedom did the faculty have to participate?
4. Who participated in planning and was it on the district or campus level or both?
5. What kind of resources were provided?
6. What was the content of the inservice?
7. On what level was the content of the inservice? Did it relate to any of the stages of change strategy?
8. Why did the faculty participate?
9. Is there any relationship between inservice education and the program recognized by the DSII network both before and after that program was initiated?

The rationale for the items and questions was that if these questions could be answered, a clear picture of the inservice education practices could be obtained.

Data Gathering

The instrument was sent by United States mail to all of the principals of the 102 elementary schools

who were in the 1976 DSII network. A letter was enclosed requesting their participation in the Study (Appendix D). The response rate was 62 per cent. Out of 102 school surveyed, 63 returned the instruments. Fifty-four schools returned them within seven days. A follow-up letter was sent in two weeks and nine other questionnaires were returned. All returned questions were usable and none were discarded.

Variables in Inservice Education Practices

There are two kinds of variables derived from the inservice education practices. The first are those related to the descriptive analysis, and the second are those related to the study on relationships. See Exhibit 3.5 for a summary and data sources in inservice education practices.

Variables Involved in the Descriptive Study on Inservice Education Practices. The source of data for the variables was the survey instrument "Inservice Programming Practices" which was completed by the principal of the school that contained the DSII program. These variables were described in Chapter I. The following is a further description with a specific detailing of the source of data for each variable:

Exhibit 3.5

Summary of Variables in Inservice Education Practices and Data Sources

DESCRIPTIVE STUDY

Code	Variable	Source* - Item Number
ISE 1	Experience	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25
ISE 2	Voluntarism	13
ISE 3	Consultants	26, 27, 28, 29, 30, 31, 32, 33, 34, 35
ISE 4	Planning	36, 37, 38, 39, 40, 41, 42, 43, 44
ISE 5	Resources	45, 46, 47, 48
ISE 6	Content	49, 50, 51, 52, 53, 54, 55
ISE 7	Level of Experience	56, 57, 58, 59, 60, 61
ISE 8	Incentive	62, 63, 64, 65, 66, 67, 68, 69, 70

STUDY ON RELATIONSHIPS

Code	Variable	Source*
ISE - I	OVERALL EXPERIENCE IMPACT	ISE-I = ISE 1+ISE 3+ISE 7 less items 14-25, 33, 34, 35, 61
ISE 1	Experiences	
ISE 3	Consultants	
ISE 7	Level of Experiences	
ISE - II	SYSTEMATIC LEADERSHIP	ISE-II = ISE 4+ISE 5+ISE 6+ISE 2 less item 44
ISE 4	Planning	
ISE 5	Resources	
ISE 6	Content	
ISE 2	Voluntarism	

* Source is survey instrument "Inservice Programming Practices"

1. Experiences (ISE 1)

This variable can be described as indicating the type of inservice experience that was provided to the faculty, when they had it and how often. The experiences include things such as workshops that involve doing, discussing, demonstrating and not just listening, (2) college courses that involve regular class sessions, readings, assignments, (3) college course practicum or laboratory type, (4) consultation involving individual or small group conferences with a specialist or supervisor on problems, (5) directed self-study involving a planned sequence of events, (6) visits to other schools involving careful selection of places to visit with prior arrangement, (7) lectures involving a formal presentation by specialists, (8) demonstration involving planned opportunity to see a particular practice or procedure in operation, (9) national conference or institute focused on a specific topic, (10) grade level meetings, and (11) curriculum writing sessions. The data for this variable were secured from items 1 through 12 and 14 through 25 on the survey instrument.

2. Voluntarism (ISE 2)

This variable represents the degree of freedom that is perceived by the faculty in the participation in the inservice education. The data for this variable were secured from item 13 on the survey instrument.

3. Consultants (ISE 3)

This variable represents how much of what kind of consultant was used to deliver the inservice training. The consultant could be from the Education Service Center, a university or college, the central office of your district or private agency. The consultant could be a teacher from your own building or from another building. The kind of work that the total consultant time was used in is another factor. It could have been in large group work (ten or more participants), in small group work (less than ten participants) or work on an individual basis. The data for this variable were secured from items 26 through 35 on the survey instrument.

4. Planning (ISE 4)

This variable concerns (1) the amount of district and campus level planning, (2) the identification of the individuals who were involved in the planning, and (3) the use of assessment data in planning. The data for this variable were secured from items 36 through 44.

5. Resources (ISE 5)

This variable concerns the amount of funds designated for inservice education that are used at the local building level. It also includes resources that are appropriated for release time for teachers during the school hours. The data for this variable were secured from item 45 through 48 on the survey instrument.

6. Content (ISE 6)

This variable represents the identification of the specific content that is provided in the inservice education. This includes curriculum subject matter, methodology of instruction, orgranizational strategies, use of educational technology (e.g., tape recorders, projectors, teaching machines), use of materials in instruction, assessment of achievement, management of student behavior. The data for this variable were secured from items 49 through 55.

7. Level of Experience (ISE 7)

This variable represents the level of experiences provided in regard to identified stages in change strategies. These stages are represented by objectives and activities that are directed to (1) awareness of ideas

and information, (2) the relative advantages and feasibility of changes, (3) the consideration of the adoption of specific changes, (4) the development of practical skills and techniques, (5) the reviewing of problems and/or side effects of changes, and (6) related to needs of the faculty. The data for this variable were secured from items 56 through 61.

8. Incentive (ISE 8)

This variable represents the motivation of the faculty to participate in the inservice education. Possible motivating factors could be (1) required by the school district, (2) required by a campus plan, (3) to fulfill a project requirement, (4) to gain skills and knowledge which help fulfill the personal desire of the teacher to be helpful to others, (5) association with other adults, (6) to fulfill a legitimate need to have time away from students, (7) opportunity to have the teacher's own professional skills acknowledged, (8) to keep skills updated, and (9) to keep abreast of trends in order to plan professionally for the future. The data for this variable were secured from items 62 through 70 on the survey instrument.

Variables in Inservice Education Practices Involved in the Study of Relationships. These variables are the result of combinations of part of the variables involved in the descriptive study. They were described in Chapter I. The following is a further description with a specific detailing of the source of data for each variable:

1. Overall Experience Impact in ISE (ISE-I)

This variable represents a combination of part of the variables labeled experiences, consultants, and content involved in the descriptive study under inservice practices. It specifically refers to the type of experience and how often it was provided as well as the number of times different kinds of personnel delivered the inservice. It also refers to how many different levels of content were presented. The data for this variable were secured from items 1 through 12, 26 through 32, and 56 through 60 on the survey instrument.

2. Systematic Leadership in ISE (ISE-II)

This variable represents a combination of parts of the variables labeled planning, resources, content and voluntarism involved in the descriptive study under inservice practices. It refers to the number of individuals involved in planning from both district and

campus levels, how active they were in their support of inservice in terms of time and money, the variety and amount of content that was provided and the degree of freedom perceived in the participation in inservice education. The data for this variable were secured from items 36 through 43, 45 through 48, 49 through 55, and item 13 on the survey instrument.

Treatment of Data

Data Used for Descriptive Study

Innovative Programming Data. The data generated from the sources indicated in the description of each variable in the DSII network innovative programming practices were transcribed to IBM computer cards. Descriptive statistics were generated by the University of Texas at Austin CDC 6600 computer using SPSS by Nie and others. The results are reported in Chapter IV.

Inservice Education Practices Data. The data generated from the sources indicated in the description of each variable in the Inservice Education Practices were transcribed to IBM computer cards. Descriptive

statistics were generated by the University of Texas at Austin CDC 6600 computer using SPSS by Nie and others. The results are reported in Chapter IV.

Data Used for the Study of Relationships

A single school score was obtained for each of the four variables (Overall experience impact in ISE (ISE-I), Systematic Leadership in ISE (ISE-II), Extent of Innovation (IP-I), and Complexity of Innovation) (IP-II) as well as for the subvariables which composed them. This was done by using Program TESTAT of the VSTAT CDC 6600 Computer Programs for Statistical Analyses (1974) by Donald J. Veldman. Correlation was the primary statistical procedure used to test the hypotheses. Coefficients of correlation were calculated by computer using Veldman's Program FACTOR. Other findings not specifically related to the testing of the hypotheses but are reported out of interest were generated by using Veldman's Program ANOVA for an analysis of variance in which schools were divided into two groups - those who innovated in one subject and those who innovated in more than one. An analysis of variance in relationship to the four variables was run controlling

for grade level. The results of the testing of the hypotheses and other findings of interest are reported in Chapter V.

The branching diagram analysis (Harris, 1974) and the weighted net percentage difference (WNPD) developed by Spady (1970) are the primary procedures used to answer research question four. These are techniques that were developed in order to attempt multi-variate analysis on simple data without elaborate statistical procedures. They are innovations that make it possible to describe relationships either when the N is too small to use other multi-variate statistical procedures or it is desirable not to have to use a computer.

The weighted net percentage difference (WNPD) is a non-parametric technique for analyzing the interrelationships and individual "effects" of several variables at a time. It computes the net "effect" of a given ordinal or categorical independent variable on a categorical dependent variable holding constant the influence of the other independent variables in the data set. It tests to what extent an original zero-order relationship "holds up" when other relevant variables are introduced into the analysis. It does some of the

same work as multiple-regression analysis yet it requires much less in the way of human and technical resources (Spady, 1970).

The branching diagram analysis was developed by Ben M. Harris who is a Professor of Education Administration at the University of Texas at Austin. He developed the technique as a result of work reported in Educational Evaluation and Decision-Making by Daniel L. Stufflebeam, et. al. (Phi Delta Kappa National Study Committee on Evaluation, 1971). It is specifically related to the CIPP Model, which uses four classes of evaluation: context, input, process, and product. This model has been used as the basis of other models, and it has been discussed and explained frequently (Anderson and others, 1975; Guba, 1970; Harris, 1975; Randall, 1969; Stufflebeam, 1967; Stufflebeam, 1968). The branching diagram analysis involves dividing the variables into "high" and "low" groupings. The division point between high and low should be at a natural breaking point, if a natural break exists between the high and low groups of data. Otherwise the division point should be as near the middle of the range of values as possible. After each variable is ranked and dichotomized

into a high grouping and a low grouping, the variables are then categorized as an input, process or product variable.

A branching diagram is then constructed. The diagram consists of high and low divisions for the input data and branches to a high and low division for the process data from each division of the input data. Finally, the process data are divided into a high and low grouping from each of the process data groups. This results in eight subsets of scores under the product data.

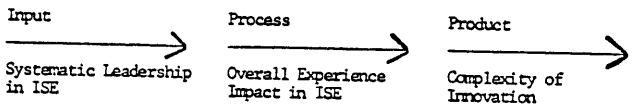
An example of a branching diagram is shown in Exhibit 3.6. In this example variable A is the input which seems to influence the process variable B, which in turn yields C, the product. The example can be interpreted in the following way:

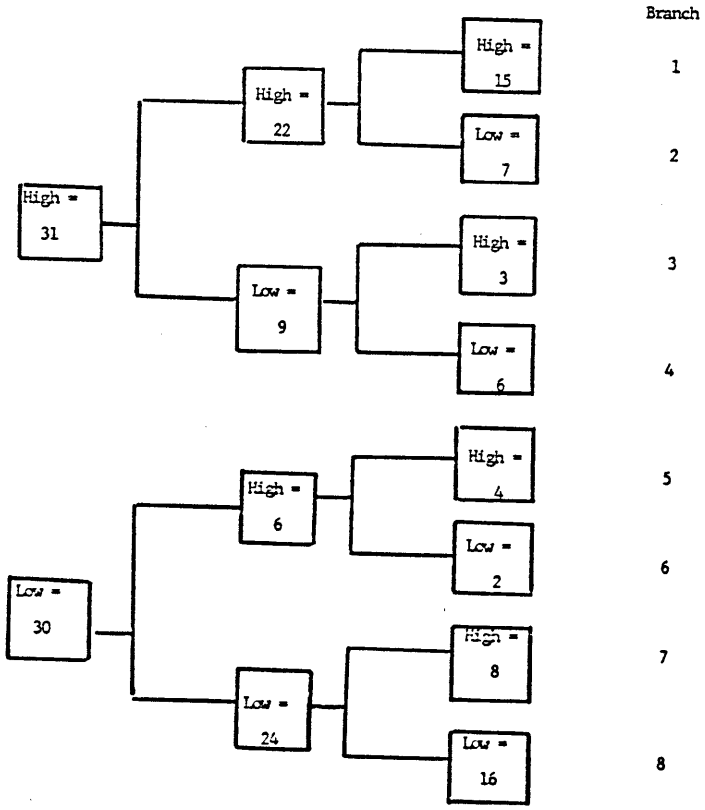
1. High A with high B is associated with high C two out of three times (branches 1 and 2).

2. Low A with low B is associated with low C two out of three times (branches 7 and 8).

3. High A with low B is associated with low C two out of three times (branches 3 and 4).

Sample Branching
Exhibit 3.6





4. Low A with high B is associated with high C in two out of three times (branches 5 and 6).

These statements can be used to make conclusions regarding the variables and the implications of their possible association although without any knowledge of their significance. It does not yield a statement of the significance of the relationships but does allow for a description.[1]

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[1]For more information read Constructing and Interpreting Branching Diagrams for Evaluation of Instruction by Ben M. Harris. A complete reference to this work is found in the references following this chapter.

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CHAPTER IV

DESCRIPTIVE FINDINGS OF THE STUDY

Introduction

One of the purposes of the study was to yield descriptive data related to inservice practices and innovative programming practices in schools in which specific innovations in individualizing instruction could be documented as to their actual existence. In order to fulfill this purpose data was collected on the DSII network schools for 1976. The procedures and variables were presented in depth in Chapter III.

This chapter will present a brief overview of the schools involved as subjects for this study followed by a descriptive analysis of inservice program practices reported. The later section reports on the innovative features of the schools in operation.

The DSII Schools

Sixty-three elementary school responded to the survey out of a possible total of 102 elementary schools.

These sixty-three schools represent fifty-seven programs out of a possible seventy-six programs in the DSII network. The number of programs differs from the number of schools because several schools combined efforts into one operating program.

The mean campus enrollment of those responding is 496 students with a mean of 21 regular classroom teachers, 6 special teachers and 7 aides. Twenty-nine schools identified all subjects as the innovative program. Reading and mathematics were the primary subjects when the innovative program did not include all subjects. The mean number of teachers reported involved in the innovative program in the school is 11 with a mean of 260 children. This means that on the average only one-half of the regular faculty was involved. The principal was identified by 85 per cent of the respondents as the person responsible for implementing curricular, instructional, and/or organizational change within the building.

Analysis of Inservice Practices

The variables used in the analysis of inservice practices are as follows: (1) experiences (ISE 1), (2) voluntarism (ISE 2), (3) consultants (ISE 3), (4) planning (ISE 4), (5) resources (ISE 5), (6) programming content (ISE 6), (7) level of experiences (ISE 7), and (8) incentive (ISE 8). General comments are made on the analysis of each variable and then an item by item analysis is presented.

Experiences (ISE 1)

This variable can be described as indicating the type of inservice experience that was provided to the faculty. This included when they had it, and how often. The data for this variable were secured from items 1 through 12 and 14 through 25 on the survey instrument. Refer to the Appendix for further detail.

Data indicate a large variety of inservice experiences provided by the reporting schools. The most frequent inservice training experiences appear to be

workshops

consultation

Exhibit 4.1.1

Number and Per Cent of Schools by Amount of Participation in Specific Types of Experiences

Type of Experience	Response choices: None		1-3 times		4-6 times		7-10 times		Over 10 times		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
1. Workshop	0.0	0	44.3	27	34.4	21	11.5	7	9.8	6	2
2. College course	50.0	30	31.7	19	8.3	5	5.0	3	5.0	3	3
3. College course-practicum	70.0	42	20.	12	6.7	4	1.7	1	1.7	1	3
4. Consultation	1.6	1	42.6	26	23.0	14	13.1	8	19.7	12	2
5. Directed Self study	24.6	15	42.6	26	13.1	8	9.8	6	9.8	6	2
6. Visits	16.4	10	54.1	33	21.3	13	4.9	3	3.3	2	2
7. Lectures	18.0	11	60.7	37	18.0	11	0.0	0	3.3	2	2
8. Demonstration	16.7	10	55.0	33	23.3	14	3.3	2	1.7	1	3
9. National Conference	50.0	30	45.0	27	3.3	2	1.7	1	0.0	0	3
10. Grade Level Meeting	3.3	2	18.3	11	16.7	10	15.0	9	46.7	28	3
11. Curriculum writing	24.6	14	31.6	18	19.3	11	7.0	4	17.5	10	6

Question: Following is a list of experiences sometimes associated with inservice programming. Circle the designation which indicates the number of times which the experience was provided to members of your faculty as part of planned inservice during the past year (1975-1976).

Exhibit 4.1.2

Per Cent of Schools By Extent of Participation in Traditional and Less Traditional Experiences

Type of Experience	Mean % Response choices: None		1-3 times		4-6 times		7-10 times		Over 10 times		Missing Cases
	%	N	%	N	%	N	%	N	%	N	
*Traditional Experiences	33.2	120	32.5	117	13.9	50	5.7	21	14.8	53	17
**Less Traditional with higher experience impact	18.2	66	47.3	172	19.7	72	7.4	27	7.4	27	14

*Traditional experiences

College Course
College course - practicum
Lectures
Grade level meetings
Curriculum Writing

**Less Traditional with higher experience impact

Workshop
Consultation
Directed Self Study
Visits
Demonstration
National Conferences

Question: What is the number of times the experience was provided to members of your facutly as part of planned inservice during the past year (1975-1976)?

visits to other schools

grade level meetings

Special note should also be made of national conferences because most of the schools used this experience at least one to three times or more.

Every school reported providing workshop experiences (Exhibit 4.1.1). Less than 2 per cent reported not using consultation and less than 4 per cent reported not having grade level meetings. Although larger numbers appear not to have used visits (16.4 per cent) and national conferences (50 per cent), half or more of the schools made great use of these two high cost experiences.

The display (Exhibit 4.1.3) reveals the heavy use of release time in facilitating the inservice experiences. During school hours with release time is an obvious choice for these schools as is the practice of inservice on days other than designated inservice days.

If we group the experiences into the two categories of "traditional" experiences and "less traditional" experiences (Exhibit 4.1.2 and Exhibit 4.1.4) we find a definite trend for the innovative schools to use more of the less traditional experiences (Exhibit 4.1.2). Less traditional experiences are clearly offered

Exhibit 4.1.3

Time Frame Utilized for ISE By Type of Experience

Type of Experience	Response choices: Off Duty time Summer and/or Holiday		During School hours- no release time		During School hours with release time		After School hours		Saturdays		Designated Inservice Days		Missing Cases
	%	N	%	N	%	N	%	N	%	N	%	N	N
1. Workshop	19.7	12	8.2	5	29.5	18	8.2	5	0.0	0	34.4	21	2
2. College course	42.1	16	2.6	1	2.6	1	52.6	20	0.0	0	0.0	0	25
3. College course-practicum	45.5	15	9.1	3	3.0	1	33.3	11	6.1	2	3.0	1	30
4. Consultation	6.6	4	18.0	11	52.5	32	6.6	4	3.3	2	13.1	8	2
5. Directed Self Study	17.0	8	25.5	12	34.0	16	19.1	9	0.0	0	4.3	2	16
6. Visits	12.5	7	10.7	6	64.3	36	0.0	0	0.0	0	12.5	7	7
7. Lectures	11.3	6	13.2	7	26.4	14	15.1	8	1.9	1	32.1	17	10
8. Demonstration	18.0	9	10.0	5	44.0	22	12.0	6	0.0	0	16.0	8	13
9. National Conference	42.9	15	0.0	0	45.7	16	0.0	0	5.7	2	5.7	2	28
10. Grade level meeting	5.2	3	25.9	15	31.0	18	25.9	15	0.0	0	12.1	7	5
11. Curriculum Writing Sessions	10.0	4	17.5	7	45.0	18	17.5	7	0.0	0	10.0	4	23

Question: Circle the number which indicates <u>when</u> the inservice was held during the past year.

during school with release time provided (Exhibit 4.1.4). The more traditional experiences are generally held either after school hours, on off duty time or during school hours with release time.

1. Workshops. All of the schools reported having workshops with 55.7 per cent having four or more during the year. Twenty-one and three-tenths percent reported having had seven or more workshops per year. Six of the schools (9.8 per cent) had more than ten workshops during the year.

No school reported having any of the workshops on Saturday and only 8.2 percent reported having them after school. Thirty-seven and seven-tenths per cent indicated the workshops were held during school hours outside of designated inservice days with 29.5 per cent reporting that release time was provided. Workshops appear to be a common form of inservice on designated inservice days with 34.4 per cent reporting this occurrence. Perhaps one of the most interesting points is that 65.6 per cent had workshops as a form of inservice on days other than designated inservice days.

2. College Course. Half of the respondents (50 per cent) reported that college courses involving

regular class sessions, readings, and assignments were not part of their inservice experiences. Of those reporting the use of college courses, 31.7 per cent reported an occurence of one to three times. Three schools (5 per cent) reported having a college course over ten times.

The college course was overwhelmingly reported (94.7 per cent) as taking place on a teacher's own time (off duty during Summer and/or holidays or else after school). A large number (25) of schools did not respond to this item. This number compares with thirty who originally reported not having college courses as part of their inservice experiences.

3. College Course - Practicum. Seventy per cent of the schools reported practicum type courses not part of their experiences. Twenty per cent reported having it one to three times. Those schools who reported that the college course practicum was part of their experiences overwhelmingly indicated it was on the teacher's own time. Thirty cases were missing compared to forty-two who originally stated it was part of their experiences.

4. Consultation. Consultation involving individual or small group conferences with a specialist or supervisor on problems appears to be a primary inservice practice. Less than 2 per cent of the schools reported not using it, 19.7 per cent used it over ten times during the year, and 32.8 per cent reporting seven to ten times or more.

The consultation is reported as being held during school hours (70.5 per cent of the respondents), and 52.5 per cent of the respondents reported that the consultation took place with release time provided.

5. Self-Study. Directed self-study involving a planned sequence of events was reported by almost a fourth of the respondents (24.6 per cent) as not being part of their experiences while almost one-third of the respondents (32.8 per cent) reported the experience four or more times. The modal reply by 42.6 per cent of the respondents was one to three times.

Sixteen cases (25.4 per cent) were missing on the question concerning when the self-study took place. This compares favorably with fifteen who originally reported not using self-study. Of those who did report, 59.5 per cent of them indicated that the self-study took

place during school hours with a large number (34.0 per cent) being provided with release time.

6. Visits. Visits to other schools involving careful selection of places to visit with prior arrangement appears to be a major inservice practice for the majority of the schools. Fifty-four and one tenths per cent of them visited one to three times with 29.5 per cent making four or more visits. While this appears to be a frequent inservice practice for most of the schools, a number of them (16.4 per cent) do not report the practice at all.

The visits took place during school hours (75 per cent of respondents) with release time provided for most of them (64.3 per cent). Designated inservice days are used by some (12.5 per cent) as well as off duty time (12.5 per cent).

7. Lecture. Lectures involving a formal presentation by a specialist does not appear to be a primary practice. Eighteen per cent report not using it at all and 78.7 per cent report having had it less than three times.

Only ten cases are missing from the data reflecting when lectures were held. This compares to

eleven cases who originally stated they did not have lectures. Designated inservice days (32.1 per cent) and during school hours (39.6 per cent) appear to be the time when most of the lectures are held.

8. Demonstration. Demonstration involving planned opportunity to see a particular practice or procedure in operation does not appear to be a primary practice although many schools do use it. Seventy-one and seven tenths per cent report using it three times or less. Sixteen per cent reported not using it at all.

Those who used demonstration did so during school hours (54 per cent) with release time provided (44.0 per cent) for many of them.

9. National Conference. Fifty per cent of the schools reported using this experience with 45 per cent indicating using it one to three times. One school reported over ten times.

Twenty-eight cases are reported missing in the data. Forty-five and seven-tenths per cent of those reporting indicated using this practice during school with release time provided. Off duty time (holiday and summer) was the other major time used for this experience (42.9 per cent).

10. Grade Level Meeting. Grade level meetings are a primary inservice experience with 46.7 per cent reporting using it over ten times during the year and only 3.3 per cent reporting no use. The median use was seven to ten times with the mean almost at seven to ten times.

Fifty-six and nine-tenths per cent have their grade level meetings during school. Twenty-five and nine-tenths per cent are held after school. Only 31 per cent are being held during school with release time which means that 69 per cent are being held without release time.

11. Curriculum Writing Sessions. This experience was not reported as being part of inservice practices by 24.6 per cent of the respondents which, of course, means that a little over 74 per cent are reporting some amount. However, 56.1 per cent report three times or less.

Those reporting curriculum writing indicate that school with release time is most frequent time (45 per cent).

Exhibit 4.1.4

Time Frame Utilized for ISE By Traditional Experiences and Less Traditional Experiences

Type of Experience	Mean % Response: Off Duty time Summer and/or holiday		During School hours- no release time		During School hours with release time		After school hours		Saturday		Designated Inservice Days		Missing Cases
	%	N	%	N	%	N	%	N	%	N	%	N	N
*Traditional experience	22.8	65	14.5	41	21.6	61	28.9	82	1.5	4	11.4	32	93
**Less Traditional experience	19.5	60	12.1	37	45	140	7.7	24	1.5	5	14.3	44	68

*Traditional experiences:

College Course
College Course - practicum
Lectures
Grade level meetings
Curriculum writing

**Less Traditional

Workshop
Consultation
Directed Self Study
Visits
Demonstration
National Conferences

Question: Circle the number which indicates <u>when</u> the inservice was held during the past year.

Voluntarism (ISE 2)

This variable represents the degree of freedom that is perceived by the faculty in the participation in the inservice education. The data for this variable was secured from item 13 on the survey instrument. Refer to the Appendix for further detail.

The responses indicate a marked degree of freedom in the choice of participation in the inservice programming. Fifty-six and nine-tenths per cent of the schools indicated that the participation of the staff was "often" voluntary or "always" voluntary. Almost a fourth of the respondents indicated "almost always" voluntary. It should be noted that participation was rarely perceived as being completely voluntary. (See Exhibit 4.2.1).

Consultants (ISE 3)

This variable represents how often each kind of consultant was used to deliver the inservice education. The kind of work that the total consultant time was used in is another factor. It could have been in large group work, in small group work or work on an

Exhibit 4.2.1

Number and Per Cent of Schools By Extent of Voluntarism of Participation

Response choices										
Never Voluntary		Sometimes Voluntary		Often Voluntary		Almost Always Voluntary		Always Voluntary		Missing Cases
%	N	%	N	%	N	%	N	%	N	N
0.0	0	43.1	25	27.6	16	24.1	14	5.2	3	5

Question: Circle the number which indicates the type of participation in inservice programming.

individual basis. The data for this variable was secured from items 26 through 35 on the survey instrument. Refer to the Appendix for further detail.

Data indicate that Education Service Center consultants, teachers from their own building and central office staff consultants were the most frequently used consultants. This was particularly evident if consultants were used more than four to six times. If the data are examined in terms of consultants used from outside the district as compared to those from within the district it appears that the use was about the same for the two categories (Exhibit 4.3.2). However, when these data are compared to the individual responses it is apparent (Exhibit 4.3.1) that usage of consultants is spread fairly evenly among the consultants inside the district. From outside the district the majority of consultants came from the Education Service Center.

1. ESC Consultants. Heavy use was made of ESC consultants with 44.3 per cent of the respondents using them four to six times or more. Less than 10 per cent reported not using them at all while 11.5 per cent used them over ten times.

2. University Consultants. Only 20.4 per cent used a university consultant over three times while 22 per cent did not use them at all.

3. Private Consultants. Only one school (1.8 per cent) used a private consultant more than four to six times while the majority (87.3 per cent) used the private consultant one to three times or less.

4. Teacher From Your Own Building. Respondents reported using their own teachers frequently. In fact 41.8 per cent reported using them four or more times.

5. Teacher, But Not From Your Own Building. Many schools did not use this type of consultant (37 per cent) but many did with the majority of use being one to three times (42.6 per cent).

6. Central Office Staff. Central office staff was used extensively. Almost half of the time (42.6 per cent) the usage was four times or more.

Planning (ISE 4)

This variable concerns (1) the amount of district and campus level planning, (2) the identification of the individuals who were involved in the

Exhibit 4.3.1

Number and Per Cent of Schools By Amount of Use of Specific Types of Consultants

Type of Consultant	% Response Choices: None		1-3 times		4-6 times		7-10 times		Over 10 times		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
1. Education Service Center	9.8	6	45.9	28	23.0	14	9.8	6	11.5	7	2
2. University or College	22.0	13	57.6	34	11.9	7	5.1	3	3.4	2	4
3. Private Agency	50.9	28	36.4	20	10.9	6	0.0	0	1.8	1	8
4. Teacher from your own building	10.9	6	47.3	26	20.0	11	12.7	7	9.1	5	8
5. Teacher, but not from your own building	37.0	20	42.6	23	16.7	9	1.9	1	1.9	1	9
6. Central office staff	9.8	6	47.5	29	18.0	11	16.4	10	8.2	5	2

Question: How many times were each of the following types of consultants used during the past year? Circle the designation which indicates the number of times a consultant was used.

Exhibit 4.3.2

Per Cent of Schools Who Used Consultants from Outside and Inside the District

	Mean % Response choices										
	None		1-3 times		4-6 times		7-10 times		Over 10 times		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
*Outside District Consultants	27.6	48	46.6	82	15.3	27	4.9	9	5.6	9	14
**Inside District Consultants	19.2	33	45.8	78	18.2	31	10.3	17	6.4	11	19

*Outside Consultants

Education Service Center
University or College
Private Agency

**Inside District Consultants

Teacher from own building
Teacher, but not own building
Central Office Staff

Question: How many times were each of the following types of consultants used during the past year?

planning, and (3) the use of assessment data in planning. The data for this variable was secured from items 36 through 44. Refer to the Appendix for further detail.

Planning on both campus and district office level is extensive with a corresponding high level of involvement of both building principal and central office staff. There appears to be a tendency for more district level planning than campus level. (See Exhibit 4.4.1 and 4.4.2).

1. Planning On District and Campus Level. The data indicate that planning on the district level for 70.4 per cent of the respondents takes place "often" or "always." Campus level planning for inservice programming is also reported as high. Sixty-three per cent reported "often to always." It would appear that district level involvement in planning is more intense than campus level because only 27.5 per cent responded "almost always" or "always" for campus level involvement while 50 per cent responded affirmatively to this question on the district level.

2. Who Is Involved. A small number of schools (1.6 per cent) reported "never" involving the

building principal in planning while 75.8 per cent reported involving the principal "often" or "always."

Central office staff involvement was reported as being extremely high with 50 per cent of the respondents reporting "almost always" or "always." The involvement of teachers from the district is not reported as being as extensive as either building principals or central office staff. Thirty-five per cent of schools reported involvement of teachers from the district as being "sometimes" or less often with 64.9 per cent reporting "often" or "always." Groups of teachers from within the campus are reported as being involved 72.6 per cent of the time "often" or "always." Individual teachers were reported as being less involved than any other group with 54.9 per cent indicating sometimes or less.

3. Use of Assessment Data in Planning. Everyone reported some use of assessment data in planning while almost half (47.8 per cent) responded "almost always" or "always." Unfortunately only 45 per cent of the schools responded to this item as compared with an overall response rate of 62 per cent. If we assume that non-responses may imply lack of use or

Exhibit 4.4.1

Planning

	Response choices										
	Never		Sometimes		Often		Almost Always		Always		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
(District Level)	6.5	4	24.2	15	19.4	12	37.1	23	12.9	8	1
Campus Level	1.6	1	35.5	22	35.5	22	19.4	12	8.1	5	1
Building principal	1.6	1	22.6	14	25.8	16	25.8	16	24.2	15	1
Central Office Staff	3.3	2	23.3	14	23.3	14	38.3	23	11.7	7	3
Groups of teachers from district	13.3	8	21.7	13	38.3	23	18.3	11	8.3	5	3
Groups of teachers from within campus	4.8	3	22.6	14	41.9	26	22.6	14	8.1	5	1
Individual teachers	8.1	5	46.8	29	25.8	16	12.9	8	6.5	4	1

Question: Does planning for inservice programming take place on the district level ... on campus level? Who is involved?

Exhibit 4.4.2

Mean Level of Involvement

	Mean Response
Building principal	3.48
Central Office Staff	3.31
Groups of Teachers from the District	2.86
Groups of Teachers from within campus	3.06
Individual Teachers	2.62

Scale

1 = Never

2 = Sometimes

3 = Often

4 = Almost always

5 = Always

Exhibit 4.4.3

Number and Per Cent of Schools By Extent of

Use of Assessment Data in Planning

	Response choices										
	Never		Sometimes		Often		Almost Always		Always		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
Extent Used	0.0	0	19.6	9	32.6	15	23.9	11	23.9	11	17

Question: To what extent are evaluation or needs assessment results utilized in planning subsequent inservice activities?

rather unsystematic use of assessment data in planning, then perhaps less than 35 per cent of the schools actually fall into the higher frequency of use categories.

Resources (ISE 5)

This variable concerns the amount of funds designated for inservice education that are used at the local building level. It also includes resources that were appropriated for release time for teachers during school hours. The data for this variable were secured from items 45 through 48 on the survey instrument. Refer to the Appendix for further detail.

The majority of the schools have designated funds available for inservice programming at the local building level. The amount varies from less than $100 to $2,500 and above with the median response being in the $101-$500 range. Release time is reported as being available to almost all of the respondents.

1. Funds. The data indicate that a large number of the schools (72.6 per cent) have some amount of designated funds for inservice programming that are used at the local building level. Sixteen schools did not respond to the question concerning the amount of funds available. This corresponds favorably to the

Exhibit 4.5.1

Number and Per Cent of Schools by Extent of

Designation of Funds for ISE

	Responses choices										
	Never		Sometimes		Often		Almost Always		Always		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
Funds designated	27.4	17	40.3	25	14.5	9	11.3	7	6.5	4	1

Question: Are there any funds designated for inservice programming that are used at the local building level?

Exhibit 4.5.2

Number and Per Cent of Schools By Amount of Funds

	Response choices											
	Under $100		$101-500		$501-1000		$1001-2500		$2501 & above		Missing Cases	
	%	N	%	N	%	N	%	N	%	N		N
Funds available	23.4	11	44.7	21	17.0	8	8.5	4	6.4	3		16

Question: What is the approximate amount of funds (designated for inservice programming) that are used at the local building?

Exhibit 4.5.3

Number and Per Cent of Schools by Extent of Utilization of

Release Time for ISE

	Responses choices										
	Never		A few hours 3 or less		A day or two		Several days 3 or more		More than 3 days		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
Release time available	3.3	2	19.7	12	41.0	25	13.1	8	23.0	14	2

Question: Estimate the extent to which release time for teachers during school hours was available during the 1975-1976 school year?

number (17) who originally stated that funds were never available. Thirty-one and nine-tenths percent of the respondents reported that the amount designated was over $500 (Exhibit 4.5.2). It should be noticed that 7 schools representing 14.9 per cent of the respondents reported having over $1,000 available to them.

2. Release time. Release time was generally available for teachers during the 1975-1976 school year with only 3.3 per cent reporting "none," 36.1 per cent reported three or more days being available with 60.7 per cent having a day or two or less available. (Exhibit 4.5.3).

Content (ISE 6)

This variable represents the identification of the specific content that is provided in the inservice education. The data for this variable were secured from items 49 through 55 on the survey instrument. Refer to the Appendix for further detail.

The display of data (Exhibit 4.6.1) indicates a variety of content was used in the inservice programming. Some categories were used more extensively

Exhibit 4.6.1

Number and Per Cent of Schools By Amount of Type of Content Utilized in Programming for ISE

Topic	Response choice: Never		Rarely		Sometimes		Often		Almost Always		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
Curriculum subject matter	0.0	0	1.6	1	39.3	24	49.2	30	9.8	6	2
Methodology of instruction	0.0	0	6.6	4	37.7	23	50.8	31	4.9	3	2
Organizational strategies	1.6	1	17.7	11	41.9	26	30.6	19	8.1	5	1
Use of ed technology... tape recorders projectors etc.	8.5	5	32.2	19	44.1	26	11.9	7	3.4	2	4
Use of materials in instruction	0.0	0	6.7	4	41.7	25	45.0	27	6.7	4	3
Assess. of achievement	1.6	1	11.5	7	41.0	25	37.7	23	8.2	5	2
Manage student behavior	1.6	1	14.8	9	49.2	30	27.9	17	6.6	4	2

Question: Circle the number which best indicates the content of the inservice programming for the past year.

than others. It should be noted that curriculum subject matter (the most extensively used) methodology of instruction and use of materials in instruction were content topics used by all of the schools. The only topic in which little use was made of educational technology. (Exhibit 4.6.2).

1. Curriculum Subject Matter. All respondents reported having curriculum subject matter as part of the content of the inservice programming. Fifty-nine per cent report the occurrence being "often" or "almost always."

2. Methodology of Instruction. All respondents reported having methodology of instruction as part of the content. Fifty-five and seven-tenths per cent report the occurrence being "often" or "almost always."

3. Organizational Strategies. Nineteen and three-tenths per cent of the respondents indicated that organizational strategies was rarely or less often the content of the inservice programming while 38.7 per cent had it "often" or "almost always."

4. Use of Educational Technology (e.g. tape recorders, projectors, teaching machines). Forty and seven-tenths per cent of the respondents indicated this

Exhibit 4.6.2

Mean Level of Inclusion of Content

Curriculum subject matter	3.67	Scale
Methodology of instruction	3.54	1 = never
Organizational strategies	3.26	2 = rarely
Use of ed. technology	2.70	3 = sometimes
Use of materials	3.51	4 = often
Assessment of achievement	3.39	5 = almost always
Managing student behavior	3.23	

category of content as "rarely" or "never" being part of the content with only 15.3 per cent indicating "often" or "almost always."

5. Use of Materials in Instruction. All respondents reported having this category of content as part of their inservice programming with a large per cent (51.7 per cent) indicating "often" or "almost always."

6. Assessment of Achievement. This category of content was relatively high in use for inservice programming. Forty-five and nine-tenths per cent marked "often" or "almost always."

7. Management of Student Behavior. This category does not represent high use. Thirty-four and five tenths per cent marked "often" or "almost always" although 83.7 per cent had it "sometimes" or more.

Level of Experience (ISE 7)

This variable represents the level of experiences provided in regard to identified stages in change strategies. The data for this variable were secured from items 56 through 61 on the survey instrument. Refer to the Appendix for further detail.

Much of the activity appears to have taken place on the level of awareness of ideas and information and the level of the development of practical skills and techniques (Exhibit 4.7.1 and 4.7.2). The majority reported that the activities were highly related to the needs of the faculty. There is little evidence which would indicate that inservice programming activities were perceived as being connected to the concept of change.

1. Awareness of Ideas and Information. All schools reported having activities and objectives in inservice programming directed toward this level. Activity was high in this area with 31.2 per cent reporting "almost always" or "always."

2. Systematic Evaluation of the Relative Advantages and Feasibility of Changes. Activity was not as high on this level with 33.3 per cent reporting only "sometimes" or less. Only 16.7 per cent reported activity directed toward evaluations of this kind "almost always" or "always." Of course, this type of evaluation might logically be more common in earlier stages of implementation rather than at later stages as characterized most of these schools.

Exhibit 4.7.1

Level of Experiences

Type	% Responses choices										Missing Cases
	Never		Sometimes		Often		Almost Always		Always		
	%	N	%	N	%	N	%	N	%	N	N
1. Awareness of ideas and info	0.0	0	21.3	13	47.5	29	23.0	14	8.2	5	2
2. Systematic evaluation of advantages and feasiblity of change	5.0	3	28.3	17	50.0	30	11.7	7	5.0	3	3
3. Adoption of change	1.7	1	38.3	23	40.0	24	16.7	10	3.3	2	3
4. Development of practical skills & techniques	1.6	1	13.1	8	50.8	31	29.5	18	4.9	3	2
5. Reviewing problems of change adopted	9.8	6	36.1	22	36.1	22	14.8	9	3.3	2	2
Question: On what level was the content of the experiences associated with inservice programming during the year?											
Related to needs	0.0	0	13.1	8	32.8	20	45.9	28	8.2	5	2

Exhibit 4.7.2

Mean Response on Level of Content

Choice	Mean Response
Awareness of ideas and information	3.18
Systematic evaluation of the advantages and feasibility of changes	2.83
Consideration of the adoption of specific changes	2.81
Development of practical skills and techniques	3.23
Review of problems and/or side effects of changes adopted	2.65
Related to needs	3.49

Scale

1 = Never

2 = Sometimes

3 = Often

4 = Almost always

5 = Always

3. Consideration of the Adoption of Specific Changes. Forty per cent of the respondents reported activity on this level either "sometimes" or less. Only 20 per cent reported it as an activity "almost always" or "always."

4. Development of Practical Skills and Techniques. A small number reported "never" having this level of activity (1.6 per cent) while 85.2 per cent reported "often" or "always" with 34.4 per cent stating "almost always" to "always."

5. Review of Problems and/or Side Effects of Changes Adopted. Activity was low on this level with 45.9 per cent reporting only "sometimes" or less and only 18.1 per cent "almost always" or "always."

6. Related to Needs. All respondents reported activities related to the needs of the faculty with 44.1 per cent "almost always" or "always."

The overall pattern is one of inservice objectives that are highly task oriented, personal needs related. "Awareness" level objectives continue to be frequent, and evaluations of feasibility, relative advantage, or considerations of alternatives for further change are not dominant. The training appears focused,

covergent, and restricted by task and need; hence, not divergent, exploratory, or evaluative in orientation.

Incentive (ISE 8)

This variable represents the motivations of the faculty to participate in the inservice education. The data for this variable were secured from items 62 through 72 on the survey instrument. Refer to the Appendix for further detail.

The data indicate (Exhibits 4.8.1, 4.8.2, 4.8.3) that the respondents perceived only four out of the nine reasons presented as being of much, if any, influence upon their teachers' participation in inservice programming activities. The four reasons which they did identify are:

1. Required by the school district
2. To gain skills and knowledge which help fulfill the personal desire of the teacher to be helpful to others.
3. To keep skills updated.
4. To keep abreast of trends in order to plan professionally for the future.

Exhibit 4.8.1

Number and Per Cent of Schools By Extent of Incentive for Participation

Reasons	% Response choices: Never		Sometimes		Often		Almost Always		Always		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
Required by District	6.6	4	21.3	13	23.0	14	31.1	19	18.0	11	2
Required by Campus plan	7.1	4	32.1	18	28.6	16	30.4	17	1.8	1	7
Fullfill project requirement	14.0	8	43.9	25	26.3	15	15.8	9	0.0	0	6
Skills & knowledge to fulfill teacher need to be helpful	0.0	0	13.3	8	40.0	24	36.7	22	10.0	6	3
Association with other adults	15.5	9	43.1	25	25.9	15	13.8	8	1.7	1	5
Time away from students	40.7	22	37.0	20	16.7	9	3.7	2	1.9	1	9
Skills acknowledged	10.5	6	47.4	27	29.8	17	8.8	5	3.5	2	6
Skills updated	0.0	0	11.5	7	49.2	30	26.2	16	13.1	8	2
Abreast of trends	0.0	0	6.7	4	55.0	33	18.3	11	20.0	12	3

Question: In your opinion, to what extent have these reasons influenced your teachers' participation in activities during the past year?

Exhibit 4.8.2

Mean Response on Reasons for Participation

Choice	Mean Response
Required by District	3.33
Required by campus plan	2.88
Fulfill Project Requirement	2.44
Gain of skills and knowledge to fufill desire to help others	3.43
Association with other adults	2.43
Time away from students	1.89
Professional skills acknowledged	2.47
Skills updated	3.41
Abreast of trends	3.51

Scale

1 = Never

2 = Sometimes

3 = Often

4 = Almost always

5 = Always

Exhibit 4.8.3

Per Cent of Schools By Extent of Extrinsic and Intrensic Incentive

Type Reasons	Mean % Response choices										
	Never		Sometimes		Often		Almost Always		Always		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
*Extrinsic	7.5	22	30.3	88	32.5	95	20.9	61	8.7	25	24
**Intrensic	14.1	32	26.2	61	33	77	20	47	6.7	16	19

*Extrinsic

Required by District
Required by Campus Plan
Fulfill Project Requirement
Professional skills acknowledged
Abreast of trends

**Intrensic

Gain of skills and knowledge to fulfill desire to help others
Association with other adults
Time away from students
Skills updated

Question: In your opinion to what extent have these reasons influenced your teachers' participation in activities during the past year?

When the reasons are categorized into extrensic and intrensic types there does not appear to be an overall difference in the responses. It should be noted that two of the four reasons listed above can be classified as extrensic and two as intrensic.

1. Required by the School District. Fifty and eight-tenths per cent of the respondents marked "often" or less on this item. The most frequent response (the mode) however, was "almost always."

2. Required by a Campus Plan. Sixty and eight-tenths per cent of the respondents indicated that this reason influenced their teacher's participation "often" or "more than often."

3. Project Requirement. Fourteen per cent responded that this never influenced their teacher's participation with over half (57.9 per cent) indicating "sometimes" or less.

4. Gain of Skills and Knowledge to Fulfill Desire to Help Others. All respondents reported this as a reason for influencing their teacher's participation. Eighty-six and seven-tenths per cent indicated it as a reason "often" or "always."

5. Association with Other Adults. Over half of the respondents (58.6 per cent) marked "sometimes" or less on this item with a small number (15.5 per cent) indicating it was a reason "almost always" or "always."

6. Legitimate Need for Time Away from Students. A large number (40.7 per cent) rejected this as a reason which would influence their teacher's participation with a total of 77.7 per cent responding "sometimes" or less.

7. Opportunity for Professional Skills Acknowledged. This reason was not chosen as an important influence upon teacher participation. Over half (57.9 per cent) responded to this item as only "sometimes" or less.

8. Skills Updated. All respondents reported this as a reason for influencing teacher participation with 88.5 per cent indicating it as "often" or "always." Over a third (39.9 per cent) indicated it was "almost always" or "always."

9. Abreast of Trends. All respondents reported this as a reason with 93.3 per cent indicating "often" or "always." Thirty-eight and three-tenths per cent marked it as "almost always" to "always."

Summary of Inservice Practices

The survey of inservice program practices reveals the following:

1. A wide variety of experiences is reported with a trend to use less traditional experiences more often than traditional types. Inservice is held on days other than designated days and heavy use is made of released time to facilitate the inservice experiences.

2. There is marked degree of freedom reported in the choice of participation in inservice although participation is rarely perceived as being completely voluntary.

3. A variety of consultants is used equally from both inside and outside the district. Consultants from outside the district are usually from the Education Service Center while usage of consultants from inside the district is evenly distributed among teachers and central office staff.

4. Planning for inservice is reported as extensive. Central office staff involvement is high with a tendency for more district level planning to be present than campus level.

5. Funds are reported as being available on the building level for the majority of the schools with release time available to almost all of the respondents.

6. A variety of content is reported in the programming with curriculum subject matter most extensively used.

7. Objectives of the inservice are reported as frequently on the "awareness" level. It would appear that they are highly task oriented. The training appears to be restricted by task and need. It does not appear to be divergent, exploratory or evaluative in orientation.

8. The teachers are reported as being motivated equally by extrensic and intrensic factors.

Other Findings Related to Inservice Practices

Importance of Inservice to DSII Programming

The data indicate that the respondents generally believe inservice is necessary for continued implementation of their DSII network program and is the result of inservice activities (Exhibit 4.9.1 and 4.9.2). They did not generally report an increase in inservice activities when their program was initiated.

Exhibit 4.9.1

Number and Per Cent of Schools By Extent of Inservice Related to Innovative Programs

	% Response choice										
	Not at all		Somewhat		A Lot		Quite A Bit		A Great Deal		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
Inservice Related to 76 innovative program	15.3	9	35.6	21	23.7	14	13.6	8	11.9	7	4
Increase in inservice when program initiated	28.8	17	35.6	21	10.2	6	11.9	7	13.6	8	4
Inservice necessary for continued implementation	6.8	4	35.6	21	20.3	12	16.9	10	20.3	12	4
1976 innovative program result of inservice	10.3	6	32.8	19	20.7	12	19.0	11	17.2	10	5

Exhibit 4.9.2

Mean Response on Inservice Related to Innovative Program

	Mean Response
Extent inservice related to innovative program	2.71
Increase in inservice at initiation of innovative program	2.46
Inservice necessary to continued implementation	3.09
1976 innovative program the result of inservice	3.00

Scale

1 = Not At All

2 = Somewhat

3 = A Lot

4 = Quite A Bit

5 = A Great Deal

1. Inservice Related to DSII Program. Almost half (49.2 per cent) of the respondents indicated that inservice was related to their DSII program "a lot" or a "great deal." Fifty and eight-tenths per cent, of course, indicated "somewhat" or less with nine schools (15.3 per cent) stating it was "not at all" related.

2. Increase in Inservice at Initiation of Program Chosen for 76 DSII Network. Sixty-four and four-tenths percent of the respondents indicated "somewhat" or less to this item. One-fourth (25.5 per cent) indicated "quite a bit" or more.

3. Inservice Necessary to Continued Implementation. Fifty-seven and six-tenths per cent of the respondents indicated that inservice education was necessary, marking "a lot" or more to the continued implementation of their DSII program. Only four schools or 6.8 per cent indicated it was "not at all" necessary.

4. 1976 DSII Program the Result of Inservice. More than half of the respondents (56.9 per cent) indicated their program was the result of inservice education activities "a lot" or more. More than one-third (36.2 per cent) indicated "quite a bit" or better. Six schools (10.3 per cent) indicated it was "not at all" the result.

In summary, the respondents generally believe inservice is the result of inservice activities and that inservice is necessary for continued implementation of their DSII network program. An increase in inservice activities was not reported when their program was initiated.

Analysis of Innovative Programming Practices

Fifty-four Team Observation Reports were available for examination on the sixty-three DSII network schools who responded to the Inservice Programming Practices Survey. These reports describe and document the programming practices observed in each school. The reports were compiled by a visiting team organized by the regional service center. Each team was composed of at least one public school administrator, one university or college person, one public school classroom teacher, and one education service center person. Every school nominated for the network was visited by such a team. Objective instruments were used by each individual team member to gather data on the extent of existence of specific programming practices. The individual reports

were compiled and one report from the team was submitted to the Texas Education Agency as the documentation for meeting the criteria for acceptance into the network.

The following is a descriptive analysis of the data gathered from the Team Observation Reports. The variables used in the analysis are: (1) objectives (IP 1), (2) learner involvement (IP 2), (3) learner autonomy (IP3), (4) pacing (IP4), (5) differentiation of assignment (IP 5), (6) varying staffing patterns (IP6), (7) varying teaching strategies (IP 7), (8) flexibility in classroom management (IP 8), (9) materials and equipment (IP 9), and (10) facilities (IP 10).

Objectives (IP 1)

This variable can be described as representing curricula that are based on clearly defined objectives. Materials that are used by the student are either selected by the learner or school officials to meet the objectives. The data for this variable were secured from items 1a, 1b, 1c, 1d, 1e, and item 16 from the Team Observation Report. Refer to the Appendix for further detail.

Exhibit 4.10.1

Selection of Objectives/Materials

Responses choices											
School officials set objectives and designate materials		School officials set objectives the learner selects materials from an array provided		Learner sets objectives, school officials designate materials		Learner sets objectives, learner selects materials		Combination of other choices		Missing Cases
%	N	%	N	%	N	%	N	%	N	N
30.2	16	43.4	23	18.9	10	1.9	1	5.7	3	1

Instructions: Check the phrases which most nearly describe the program.

Data indicate that the majority of the programs (73.6 per cent) are described as having school officials set the objectives rather than the learner (Exhibit 4.10.1). Selection of materials was divided almost equally between learner selection (45.3 per cent) and school selection 49.1 per cent). The most frequently observed program (the mode) was one in which school officials set the objectives while the learner selects materials.

Learner Involvement (IP 2)

This variable can be described as representing the involvement of the learner in the innovation. Students are able to make choices of tasks as well as make suggestions about ways to accomplish a task. They have a positive attitude about school and help other students in the class. The data for this variable were secured from items 2a, 2b, 2c, 2d, 2e, from the Team Observation Report. Refer to the Appendix for further detail.

A random sample of students in each DSII schools was asked to respond to a series of questions relating to the degree of learner involvement. The team marked the student's responses.

Exhibit 4.11.1

Per Cent and Number of Innovative Programs by Extent of Learner Involvement

Questions	% Responses choices						
	No		Sometimes		Yes		Missing Cases
	%	N	%	N	%	N	N
1. Choice between several things you want to learn	15.7	8	33.3	17	51.0	26	3
2. Choice of what you will do	7.8	4	35.3	18	56.9	29	3
3. Peer Tutoring	2.0	1	21.6	11	76.5	39	3
4. Suggest activities	5.9	3	25.5	13	68.6	35	3
5. Like school	2.0	1	4.0	2	94.0	47	4

Instructions: Randomly select 10 students and solicit responses to answer the following questions.

Exact wording of the questions:

1. Do you or your classmates ever get to choose between several things you want to learn in this class?
2. Do you ever get to choose what you will do in this class?
3. Do you ever help other students or do other students ever help you?
4. Would it be all right if you made a suggestion about what you or your class might do or learn about?
5. Do you like school?

The display of data (Exhibit 4.11.1) indicates an extremely high degree of learner involvement with few of the programs being marked "no" in response to any of the questions. Ninety-two and two-tenths per cent to 98.1 per cent of the responses were marked as "sometimes" or better with the exception of "choice between several things you want to learn" which was marked by 84.3 per cent of the respondents. Peer tutoring, learner suggestion of activities, and liking school were all exceptionally positive in their response with students in only one school responding "no" meaning to either peer tutoring or liking school.

Learner Autonomy (IP 3)

This variable can be described as representing the amount of autonomy of each learner. Students are free to move about while working and sometimes score their own work. They are able to select some of their own learning activities and can exercise initiative in planning and implementing those activities. The data for this variable were secured from items 3a, 3b, 3c, 3d, from the Team Observation Report. Refer to the Appendix for further detail.

Results (Exhibit 4.12.1 and Exhibit 4.12.2) indicate that a high level of learner autonomy is reflected by all four elements. There appears to be a tendency for more freedom of movement and student scoring of their own work than activities involving student planning or selection of activities (Exhibit 4.12.2). All of the programs were described as having evidence of freedom of movement with only 9.3 per cent (Exhibit 4.12.1) of the programs described as "sometimes" or less. It should be noted that this element of learner autonomy was found in 74.1 per cent of the programs as a striking factor with solid evidence to support it. Half of the programs (Exhibit 4.12.1) also reported solid evidence of student scoring of their own work as a striking factor with 79.6 per cent reporting evidence more than "sometimes."

The element of students exercising some initiative in planning and implementing their own activities was described as existing more than "sometimes" in 48.1 per cent of the programs. More than half indicated "sometimes" or less (Exhibit 4.12.1). A little over one-fourth of the programs (26.9 per cent) reported solid evidence of students exercising initiative in

Exhibit 4.12.1

Number and Per Cent of Innovation Programs by Extent of Learner Autonomy

	% Responses choices										
	1 No Evidence		2		3 Evidence Sometimes Found		4		5 Solid evidence is a striking factor		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
1. Some learning activities are selected	5.8	3	11.5	6	23.1	12	26.9	14	32.7	17	2
2. Students are free to move about while working	0.0	0	3.7	2	5.6	3	16.7	9	74.1	40	0
3. Students can score some of their own work	5.6	3	3.7	2	11.1	6	29.6	16	50.0	27	0
4. Students can exercise some initiative in planning and implementing	3.8	2	15.4	8	32.7	17	21.2	11	26.9	14	2

Instructions: To what extent did you observe or see evidence of each of the following factors? Circle the appropriate number if you actually witnessed the element.

Exhibit 4.12.2

Learner Autonomy

	Median Response	Mean Response	Modal Response
1. Some learning activities are student selected	3.86	3.70	5.0
2. Students are free to move about while working	4.83	4.61	5.0
3. Students can score some of their own work	4.5	4.15	5.0
4. Students can exercise some initiative in planning and implementing	3.44	3.52	3.0

Scale

1 = No Evidence

2

3 = Evidence Sometimes Found

4 =

5 = Solid Evidence it is a striking factor

planning and implementing. Student selected learning activities was in evidence in 59.6 per cent of the programs more than "sometimes" with almost one-third (32.7 per cent) reporting solid evidence as a striking factor in the program.

Pacing (IP 4)

This variable can be described as representing the pacing of instruction. Students proceed at their own rates. Time is allocated to a learning activity, and it is adjusted to the needs and interests of each student. When a student demonstrates mastery of a skill or understanding of a subject, he or she does not have to perform tasks designed to teach that skill or develop the understanding. Opportunities are available for students who complete or demonstrate mastery of specified levels of work to move ahead to the next level or to have broadened experiences. The data for this variable were secured from items 4a, 4b, 4c, 4d, from the Team Observation Report. Refer to the Appendix for further details.

The elements which comprise the variable of pacing were overwhelmingly reported to be present in the

programs. All of the programs evidenced all of the elements (Exhibit 4.13.1) and at least half or more indicated solid evidence that it was a striking factor of the program.

Differentiation of Assignment (IP 5)

This variable can be described as representing the amount of differentiation of assignment for students. Students work on different tasks with different kinds and levels of materials. The teacher varies the directions and assistance for different students, and students in the same program pursue different objectives. There are opportunities to recycle with different materials and approaches in tasks where a student's understanding was insufficient to go on to new objectives. A broad spectrum of activities is offered for each objective and learning activities are student selected. The data for this variable were secured from items 5a, 5b, 5c, 5d, 5e, 5f, 5g, 5h from the Team Observation Report. Refer to the Appendix for further detail.

The display of data (Exhibit 4.14.1) indicates that all of the programs evidence differentiation of

Exhibit 4.13.1

Per Cent and Number of Innovative Programs By Extent of Pacing

	% Responses choices										
	1 No Evidence		2		3 Evidence sometimes found		4		5 Solid Evidence striking factor		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
1. Rate	0.0	0	3.7	2	5.6	3	20.4	11	70.4	38	0
2. Time adjusted	0.0	0	3.7	2	11.1	6	35.2	19	50.0	27	0
3. Mastery of skill	0.0	0	1.9	1	9.6	5	21.2	11	67.3	35	2
4. Continuous Progress	0.0	0	0.0	0	7.4	4	13.0	7	79.6	43	0

Instructions: To what extent did you observe or see evidence of each of the following factors? Circle the appropriate number if you actually witnessed the element.

Exact wording:

1. Students proceed at their own rates.
2. Time allocated to a learning activity is adjusted to the needs and interests of each student.
3. When a student demonstrates mastery of a skill or understanding of a subject, he or she does not have to perform tasks designed to teach the skill or develop the understanding.
4. Opportunities are available for students who complete or demonstrate mastery of specified levels of work to move ahead to the next level or to have broadened experiences.

Exhibit 4.14.1

Per Cent and Number of Innovative Programs By Extent of Differentiation of Assignment

	% Responses choices 1 No Evidence		2		3 Evidence sometimes found		4		5 Solid evidence a striking factor		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
1. Students work on different tasks	0.0	0	0.0	0	0.0	0	18.5	10	81.5	44	0
2. Students work with different kinds of materials	0.0	0	0.0	0	5.6	3	14.8	8	79.6	43	0
3. Students work with different levels of materials	0.0	0	0.0	0	5.6	3	9.3	5	85.2	46	0
4. Students in the same program pursue different objectives	5.7	3	7.5	4	5.7	3	20.8	11	60.4	32	1
5. Opportunities to recycle with different materials and approaches in tasks where a student's understanding was insufficient to go on to new objectives.	3.7	2	1.9	1	11.1	6	25.9	14	57.4	31	0
6. Teacher varies the directions and assistance for different students	1.9	1	1.9	1	7.4	4	20.4	11	68.5	37	0
7. Broad spectrum of activities offered for each objective	1.9	1	1.9	1	13.0	7	25.9	14	57.4	31	0
8. Learning activities are student selected	7.4	4	14.8	8	37.0	20	25.9	14	14.8	8	0

Instructions: To what extent did you observe or see evidence of each of the following factors? Circle the appropriate number if you actually witnessed the element.

Exhibit 4.14.2

Measures of Central Tendency in Differentiation of Assignment

		Mean	Median	Mode
1.	Students work on different tasks	4.82	4.89	5.0
2.	Students work with different kinds of materials	4.74	4.87	5.0
3.	Students work with different levels of materials	4.80	4.91	5.0
4.	Students in the same program pursue different objectives	4.23	4.67	5.0
5.	Opportunities to recycle with different materials and approaches in tasks where a student's understanding was insufficient to go on to new objectives	4.32	4.63	5.0
6.	Teacher varies the directions and assistance for different students	4.52	4.77	5.0
7.	Broad spectrum of activities offered for each activity	4.35	4.63	5.0
8.	Learning activities are student selected	3.26	3.25	3.0

Scale:

1 = No evidence

2

3 = Evidence sometimes found

4

5 = Solid evidence exists in which element is a striking factor of the program

assignment to a high degree. The only element of differentiation of assignment in which overwhelmingly evidence was not found was in student selection of learning activities. Evidence was still found more than "sometimes" in 40.7 per cent of the programs.

Working on different tasks with different kinds and levels of materials appears to be the activity or element in which the most solid evidence was discovered. Examination of the most characteristic scores of each of the elements, however, indicates that fairly solid evidence exists for all of them keeping in mind the difference in student selected learning activities (Exhibit 4.14.2).

Varying Staffing Patterns (IP 6)

This variable can be described as representing the varying staffing patterns observable in the innovation. Two or more teachers plan a segment of work. Parents and aides are available to work with students. Other people such as curriculum specialists, consultants and librarians are available. Two or more teachers are responsible for working with the students. One teacher has responsibility for the program. The data for this

Exhibit 4.15.1

Percent and Number of Innovative Programs By Extent of Staffing Patterns

	% Responses choices										
	1		2		3		4		5		
	No Evidence				Evidence sometimes found				Solid evidence a striking factor		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
1. Two or more teachers had planned a segment of work	3.9	2	3.9	2	13.7	7	7.8	4	70.6	36	3
2. An aide is available to work with students	10.2	5	10.2	5	14.3	7	8.2	4	57.1	28	5
3. Other people such as curriculum specialists, consultants, and librarians are available	1.9	1	5.7	3	9.4	5	20.8	11	62.3	33	1
4. Two or more teachers are responsible for working with the students	3.9	2	5.9	3	13.7	7	5.9	3	70.6	36	3
5. One teacher has responsibility for the program	19.2	10	1.9	1	5.8	3	9.6	5	63.5	33	2
6. Parents are available to work with students	24.0	12	4.0	2	24.0	12	6.0	3	42.0	21	4

Instructions: To what extent did you observe or see evidence of each of the following factors? Circle the appropriate number if you actually witnessed the element.

variable were secured from items 6a, 6b, 6c, 6d, 6e, 6f, from the Team Observation Report. Refer to the Appendix for further detail.

Results (Exhibit 4.15.1) indicate a large variety of staffing patterns in the programs. All of the staffing patterns described were found to be striking factors in at least half or more of the programs with the exception of parental availability (42.0 per cent). It should be noted that there was no evidence of one-teacher responsibility in 19.2 per cent of the programs as well as no evidence of parental availability in 24 per cent of the programs. Evidence indicating the availability of curriculum specialists, consultants and librarians was present in 83.1 per cent of the programs more than "sometimes."

Varying Teaching Strategies (IP 7)

This variable can be described as representing the variety of teaching strategies observed in the innovation. Students work independently as well as in large group and small groups. Cross-age tutoring and peer tutoring are used. Groups are reformed periodically, and on occasion one teacher works with one student. The data for this variable were secured from

items 7a, 7b, 7c, 7d, 7e, 7f, 7g, 7h from the Team Observation Report. Refer to the Appendix for further detail.

Data indicate a wide variety of teaching strategies are present in the programs. The elements of

- Students work independently
- Teachers participate in small group discussions
- On occasion, one teacher works with one student
- Groups are reformed periodically

were the most frequently evidenced in terms of more than "sometimes." (Exhibit 4.16.1). It should be noted that cross-age tutoring was found less than "sometimes" in 35.8 per cent of the programs while students have group discussions without a teacher present was found less than "sometimes" in 23 per cent of the programs. Both of these, however, appear to exist in almost half of the schools as a striking factor.

Flexibility in Classroom Arrangement (IP 8)

This variable can be described as representing the amount of flexibility in classroom arrangement.

Exhibit 4.16.1

Percent and Number of Innovative Programs By Extent of Teaching Strategies

	% Responses choices 1 No Evidence		2		3 Evidence Sometimes Found		4		5 Solid Evidence a striking factor		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
1. Students work independently	0.0	0	1.9	1	1.9	1	16.7	9	79.6	43	0
2. Cross-age tutoring is used	28.3	15	7.5	4	13.2	7	9.4	5	41.5	22	1
3. Peer tutoring is used	3.7	2	5.6	3	24.1	13	13.0	7	53.7	29	0
4. Teachers participate in small group discussions	1.9	1	0.0	0	11.3	6	15.1	8	71.7	38	1
5. Students have group discussions without a teacher present	11.5	6	11.5	6	13.5	7	17.3	9	46.2	24	2
6. Large-group or whole-class activities are used	11.5	6	3.8	2	25.0	13	9.6	5	50.0	26	2
7. On occasion, one teacher works with one student	1.9	1	1.9	1	3.7	2	22.2	12	70.4	38	0
8. Groups are reformed periodically	3.8	2	1.9	1	5.8	3	26.9	14	61.5	32	2

Instructions: To what extent did you observe or see evidence of each of the following factors? Circle the appropriate number if you actually witnessed the element.

Provisions are made for a variety of classroom arrangements including small group, large group and individual work. Instructional materials are easily accessible. The data for this variable were secured from items 8a, 8b, 8c, 8d, from the Team Observation Report. Refer to the Appendix for further detail.

Results (Exhibit 4.17.1) indicate without any question that small group work, large group work, individual work, and easily accessible instructional materials are striking factor in the programs.

Materials and Equipment (IP 9)

This variable can be described as representing the variety of materials and equipment available to help implement the innovation. This includes (1) textbooks and library books, (2) audiovisual equipment that is used in a manner that tends to individualize instruction, (3) commercial and teacher made exercises and games. The data for this variable were secured from items 9, 10, 11, 12 from the Team Observation Report. Refer to the Appendix for further detail.

Results indicate that audiovisual materials such as films and filmstrips are used extensively with

Exhibit 4.17.1

Percent and Number of Innovative Programs By Extent of Flexibility of Classroom Arrangement

	% Responses choices 1		2		3		4		5		
	No Evidence				Evidence Sometimes Found				Solid Evidence a striking factor		Missing Cases
	%	N	%	N	%	N	%	N	%	N	N
1. Provisions are made for small group work	0.0	0	0.0	0	0.0	0	5.7	3	94.3	50	1
2. Provisions are made for large group work	8.0	4	4.0	2	8.0	4	14.0	7	66.0	33	4
3. Provisions are made for individual work	0.0	0	0.0	0	0.0	0	3.7	2	96.3	52	0
4. Instructional materials are easily accessible	0.0	0	0.0	0	1.9	1	1.9	1	96.3	52	0

Instructions: To what extent did you observe or see evidence of each of the following factors? Circle the appropriate number if your actually witnessed the element.

evidence of such use found in 52 of the 54 programs. Commercial materials and instructional systems are also used fairly extensively. The data indicate that a few programs use an extremely large number of materials. The median number of materials used was 10.5 while the most frequent number found in use (the mode) was 15. Fourteen programs used 23 or more commercially available materials while eight programs listed 45. Two programs listed more than 100 different items in use. It should also be noted all of the programs indicated some amount of use of commercial materials, while 44 of the programs noted use of teacher-made materials.

Facilities (IP 10)

This variable can be described as representing the use of facilities in implementing the innovation, in regard to both flexibility and variety. The data for this variable were secured from items 13a, 13b, 13c, 13d, 13e, 13f, 13g, 13h from the Team Observation Report. Refer to the Appendix for further detail.

Multi-grade space and/or open area space was used by two-thirds of the programs while one-third reported use of the self-contained classroom. Learning

resource centers were also available to two-thirds of the programs, however with relatively limited access. A positive report was made in relation to materials and equipment being circulated freely to classroom by more than 85 per cent of the programs. Half of the programs did not have access at all to any type of supervised lab or shop. Those few who did have access to such facilities had very limited use.

Summary of Innovative Practices

The survey of innovative programming practices reveals the following:

1. Although the schools must meet certain specific criteria in order to be in the network and admittedly they are all at one end of the continium in innovative programming practices, there still is quite an amount of diversity in their practices.

2. One theme that runs through the data for the majority of schools (however, not all) is not allowing students to freely participate in the selection of activities, objectives or assignments. This was found to be the case for the majority of programs for several different variables (objectives, learner autonomy and

differentiation of assignment). Student selection of materials and freedom of movement were overwhelming used by all of the programs, but not student selection of what might be considered curricula matters.

3. There was an extremely high amount of learner involvement in all of the programs and every program reported use of pacing and differentiation of assignment (with the exception of student selection).

4. A great variety of staffing patterns was evidenced as well as teaching strategies.

5. Multi-grade space and/or open area was by far in the majority of use, however, labs and shops do not appear to be available in every program.

6. Materials use appears to be an integral part of every program.

Comparison of the Innovative Schools' Inservice Education Practices with "Common Practice"

Current "common practices" in ISE in Texas were identified in two unpublished doctoral dissertations: A Descriptive Analysis of Inservice Programs of

Selected Texas Schools Systems Utilizing Operational Criteria by Jimmie L. Creekmur and A Descriptive Analysis of the Roles of Education Service Centers in Providing Inservice Training Programs for the Public School Staffs of Texas During the 1975-76 School Year by Don P. Killough.

Creekmur's study sampled 165 districts from six size strata (including the six large urban districts) representing a cross section of geographic areas. Killough sampled each of twenty education service centers. Their findings can be summarized and compared with the inservice education practices of the innovative programs as follows:

Amount of Time in ISE

Common Practice. The average manhour per participant spent in ISE was reported to be approximately 42 hours. This excluded preparation, record keeping and "workdays." This represents five to seven days depending on the number of hours used in calculating a day. This corresponds to the minimum requirement set by the State Board of Education for designated Inservice Days.

Innovative Schools. These schools used the designated days as well as many other days for ISE. They spent time well above and beyond the bare minimum requirement.

When Was ISE Held?

Common Practice. The majority of schools in Texas held their ISE on school days during school hours. This is logical, of course, because the amount of time spent in ISE corresponds to the requirement set by the state board for designated ISE days which in most cases are held on school days. Fourteen service centers "sometimes" offered ISE in the late afternoons and evenings while thirteen of the centers indicated that they "sometimes" scheduled sessions during the summer months.

Innovative Schools. The schools reported a heavy use of released time in facilitating the inservice experiences during school hours. Very few of the schools reported ISE training at any time other than on school days during school hours. This was an obvious choice for these schools as was the practice of inservice

on days in addition to and other than designated, required days.

Type of ISE

Common Practice. There was little variety reported in the type of ISE experience in most of the school districts in Texas as well as little participation in individual activities. Workshops and mass meetings combined with small group activities were reported to be the ISE format in 90 per cent of those districts surveyed.

Innovative Schools. In contrast with common practice the innovative schools reported a wide variety of experiences that included large group, small group and individual activities. Not only were workshops included but consultation, visits to other schools, grade level meetings, directed self study, demonstration, and attendance at national conferences among other types of format were part of the experience.

Content of ISE

Common Practice. Creekmur found an even distribution of ISE time between programs for specific teaching assignments (such as reading) and programs to improve general teaching skills (such as classroom management).

Innovative Schools. The innovative programs had a wide variety of content. Specific teaching assignments as represented by curriculum subject matter was only one of many content topics used by all of the schools. There was not an even distribution of time between curriculum subject matter and other topics although along with methodology of instruction it was the most extensively used. Other topics included organizational strategies, use of materials in instruction and assessment of achievement. It should be noted that curriculum subject matter, methodology of instruction and use of materials were content topics used by all of the schools without exception. Classroom management was a topic, but it did not represent high use.

Incentive For Participation

Common Practice. Administrators identified three reasons why teachers participated in ISE programs other than because it was required. These were:

a) to gain skills and knowledge which help to fulfill the personal desire of the teacher to be helpful to others

b) to keep abreast of trends in order to plan professionally for the future

c) to keep skills updated.

Innovative Schools. Administrators in the innovative schools identified the same reasons for teacher participation.

Funding

Common Practice. Districts reported a wide range of dollars spent. The median for all districts was reported to be less than $4.00 per scholastic. This expenditure included substitute expenses. One large urban district reported an expenditure of $15.00 per pupil.

Innovative Schools. The majority of schools had designated funds available for ISE at the

local building level. Unfortunately for comparison purposes it was not based on amount per scholastic. The amount varied from less than $100 to $2,500 with the median response being in the $101 to $500 range. Released time was reported as being available for all but two respondents. It is difficult to compare practices because of the differences in the form of reporting. However, we do know that the average size campus in the innovative schools had 496 students. At $4.00 a scholastic, this would mean that $1,984 would be spent if this were like the other districts in Texas. Only seven innovative schools indicated an amount over $1,001 which is an amount far less than the $4.00 per scholastic. This does not however take into consideration the release time which was available to all but two schools.

Planning

Common Practice. Creekmur found that 90 per cent of the indistrict planning of ISE was reported to be undertaken by school principals. There were limited findings of indicators of being systematic which was defined

as including goals, needs assessment, budget and evaluation. Those districts that did score high being systematic scored equally high in involvement. Conversely districts that were in low in being systematic tended to be low in involvement.

Innovative Schools. In contrast to Creekmur's findings these schools reported indistrict planning of ISE as extensive on both the campus and district level with a corresponding high level of involvement of both principals and central office. A variety of personnel including groups of teachers from the district and from within the campus were involved in the planning. There appeared to be a tendency for more district level planning than campus level. Although the innovative programs were not scored for being systematic, all of the elements were present to a high degree in the vast majority of programs.

Summary

It is "common practice" in Texas schools to meet only the minimum requirement for ISE and to use little if any variety in the type of training or its content. School principals generally plan for training and there is little if any evidence of involvement of others or of being systematic. In contrast, the innovative schools met and greatly exceeded the minimum requirement for ISE with a great variety of experiences and content. These experiences were provided with a heavy use of release time. Extensive planning was done by a variety of personnel including principal, teachers, and central office staff with more district-wide planning than campus. A high level of being systematic appears to be characteristic of the innovative schools.

Comparison of Innovative Schools' ISE Practices with Principles of ISE

Principles of ISE that were agreed upon by Texas educators were identified in an unpublished doctoral dissertation: An Analysis of the Extent of Agreement and Concensus Existing Among Selected Educator

Groups in Texas Regrading Principles Underlying Effective Inservice Education, by Dan P. McLendon. The thirty principles can be divided into four clusters: planning, situational design, content and support. The following is a summary:

Planning: Teachers are more likely to benefit from inservice education when

- activities are linked to a district-wide effort
- activity objectives are specified
- activities are chosen by participants
- teachers are involved on the planning and conducting team
- planning represents shared interests of local school districts, colleges and universities, education service centers, and state education agencies
- responsibility for coordination is delegated to staff personnel with both time and expertise
- teacher perception of needs is utilized as well as other criteria of individual and program needs.

Situational Design: Inservice education programs are more likely to accomplish their objectives when

- activities are differentiated for all participants
- participants are actively rather than passively involved
- program content concerns immediate interests rather than storage of information for later use
- participants are encouraged to interact with each other
- activities are conducted in the school setting near the classroom environment.

Content: Inservice education is likely to be more meaningful when

- training reflects individuals' personal performance goals
- training reflects a teacher's multiple roles
- activities concentrate on improving competencies

- training emphasizes improving participant's effectiveness in the present position
- training emphasizes renewal or retraining rather than initial training
- evaluation is used to develop programs rather than just to "gather" data
- effectiveness of an inservice education activity is measured by teacher behavior rather than pupil behavior.

Support: Inservice education programs would be likely to benefit from

- reallocation of existing resources
- support on the basis of a direct pupil or per teacher allocation rather than exclusively through salaries for inservice education days and special programs
- inservice education funding addressed independently of other programmatic concerns
- inclusion of inservice education activities as part of the regular workday

- increased use of released time as an incentive for participation.

Information is not available on all of the ISE practices of the innovative schools. Therefore, we cannot compare their practices with all of the identified principles of effective ISE. However, the information that is available indicates that five of the seven principles in planning are practiced; four out of five principles in situational design are practiced; three out of seven principles in content are practiced; two out of five principles in support are practiced. None of the data available indicates any practices in violation of any stated principle.

Summary

The descriptive study reveals that these highly innovative schools report practices that indicate extensive efforts to train their teachers. There is an abundance of rather striking patterns which suggest high quality training. The amount of time spent in inservice is well above the minimum required by the State and is scheduled not only on required ISE days but at other

times using release time. A wide variety of experiences and content are offered. Incentives offered by the program include voluntary choice of experience, release time, and travel opportunities. There is a coordinated effort at planning between the district and the school campus while each school uses consultants from inside as well as outside the district.

The study of the programming within the schools reveals highly innovative practices among all of them. All of the programs have an objectives-based curriculum. Materials appear to be used as an integral part of every program. Students are allowed to work with different kinds and levels of materials in every program while opportunities to recycle with different materials and approaches in tasks where a student's understanding is sufficient to go on to new objectives. A high degree of learner involvement is evidenced in every program and when students were randomly interviewed, they indicated a positive attitude about school. Pacing is a dominant or striking feature in more than half of the programs. A great variety of staffing patterns and teaching strategies in all of the schools

is evidenced. Multigraded space and/or open area facilities are used in the majority of schools even though the availability of labs and shops is limited.

It is evident that at least two kinds of phenomena are present at the same time within the schools under study. These are highly innovative programs that are making extensive high quality inservice efforts.

References

Creekmur, Jimmie L. "A Descriptive Analysis of In-service Programs of Selected Texas Schools' Systems Utilizing Operational Criteria." Unpublished dissertation, The University of Texas at Austin, 1977.

Killough, Don P. "A Descriptive Analysis of the Roles of Education Service Centers in Providing Inservice Training Programs for the Public School Staffs of Texas During the 1975-76 School Year." Unpublished dissertation, The University of Texas at Austin, 1977.

McLendon, Dan P. "An Analysis of the Extent of Agreement and Concensus Existing Among Selected Educator Groups in Texas Regarding Principles Underlying Effective Inservice Education." Unpublished dissertation, The University of Texas at Austin, 1977.

CHAPTER V

RELATIONSHIPS BETWEEN INSERVICE EDUCATION PRACTICES AND INNOVATIVE OPERATIONS

Introduction

A descriptive analysis of the inservice education practices and the innovative operations of the 1976 DSII schools was presented in Chapter IV. This represented the first objective of this study. In this Chapter the second objective of the study will be met. This section will address the hypotheses and research question posed in Chapter I. A report will be made on the results of the testing of the hypotheses. The first part of this section will contain the testing of the hypotheses and resulting analyses. The second part will present a multivariate analysis utilizing the branching diagram technique and the weighted net percentage difference (WNPD)in an attempt to answer research question 4.

Tests of Hypotheses

Summaries of the data utilized in testing the hypotheses were reported in Chapter III. The statistical procedure utilized in testing the hypotheses was correlation. Coefficients of correlation were calculated by computer utilizing Program FACTOR of the VSTAT CDC 6600 Computer Programs for Statistical Analysis (1974) by Donald J. Veldman.

Hypothesis One

A significant relationship exists between overall experience impact in inservice education (ISE-I) and extent of innovation (IP-I)

The correlation coefficient between mean scores on overall experience impact in inservice education and scores on extent of innovation was .1504 (n.s.)[1]. The obtained coefficient was not significant, and the

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[1]From tabled correlation coefficients in Glass and Stanley, Statistical Methods in Education and Psychology (1970), page 536.

hypothesis was rejected. The results indicate that there is no significant relationship between these two variables.

Hypothesis Two

A significant relationship exists between systematic leadership in inservice education (ISE-II) and extent of innovation (IP-I)

The correlation coefficient between scores on systematic leadership in inservice education and on extent of innovation was .1466 (n.s.)[2]. The obtained coefficient was not significant, and the hypotheses was rejected. The results indicate that there is not a significant relationship between these two variables.

Hypothesis Three

A significant relationship exists between overall experience impact (ISE-I) in inservice education and complexity of innovation (IP-II)

The correlation coefficient between scores on overall experience impact in inservice education and scores on

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[2]Ibid.

complexity of innovation was .2412 (n.s.)[3]. This coefficient was not significant, and the hypothesis was rejected. The results indicate there is no significant relationship between the two variables.

Hypothesis Four

A significant relationship exists between systematic leadership in inservice education (ISE-II) and complexity of innovation (IP-II)

The correlation coefficient between scores on systematic leadership in inservice education and scores on complexity of innovation was .2139(n.s.)[4]. This coefficient was not significantly different from zero at the 0.05 level of confidence as determined by the table of significance of correlation coefficients. Therefore the hypothesis must be rejected. The results indicate that there is not a significant relationship between these two variables.

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[3]Ibid. [4]Ibid.

Exhibit 5.1.1

Results of the Testing of the Hypotheses

Hypothesis	Correlation Coefficient .05 level of confidence	Hypothesis Rejected or Accepted
One	.1504 (n.s.)	rejected
Two	.1466 (n.s.)	rejected
Three	.2412 (n.s.)	rejected
Four	.2139 (n.s.)	rejected

Analysis of Relationships Using the Branching Diagram Technique and the Weighted Net Percentages Difference (WNPD)

The branching diagram analysis technique developed by Harris (1974) and the WNPD developed by Spady (1970) were used in order to test selected relationships between inservice education practices and innovative operations. Both techniques are described in Chapter III. It is important to remember that the variables are divided into "high" and "low" groupings. The division point between "high" and "low" was chosen at a natural point near the middle of the range of values. In each case this point turned out to be near the mean score. These techniques were used in order to answer research question 4.

The Association of Systematic Leadership in ISE with Overall Experience Impact in ISE with Complexity of Innovation

Branching Diagram Analysis. There are three variables associated in this discussion: (1) systematic leadership in inservice education (ISE-II), (2) overall

experience impact in inservice education (ISE-I) and (3) complexity of the innovation (IP-II). The branching diagram in Exhibit 5.2.1 shows these three variables in relation to each other. It is assumed in the diagram that systematic leadership in ISE (input) may influence overall experience impact in ISE (process) which may in turn yield complexity of innovation (product).

An analysis of the branching diagram supports the following statements:

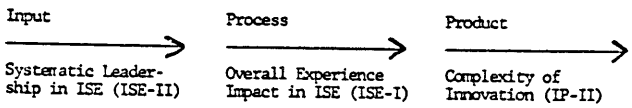
1. High systematic leadership in ISE (ISE-II) combined with high experience impact in ISE (ISE-I) is associated with high complexity of innovation (IP-II) in two out of three cases.

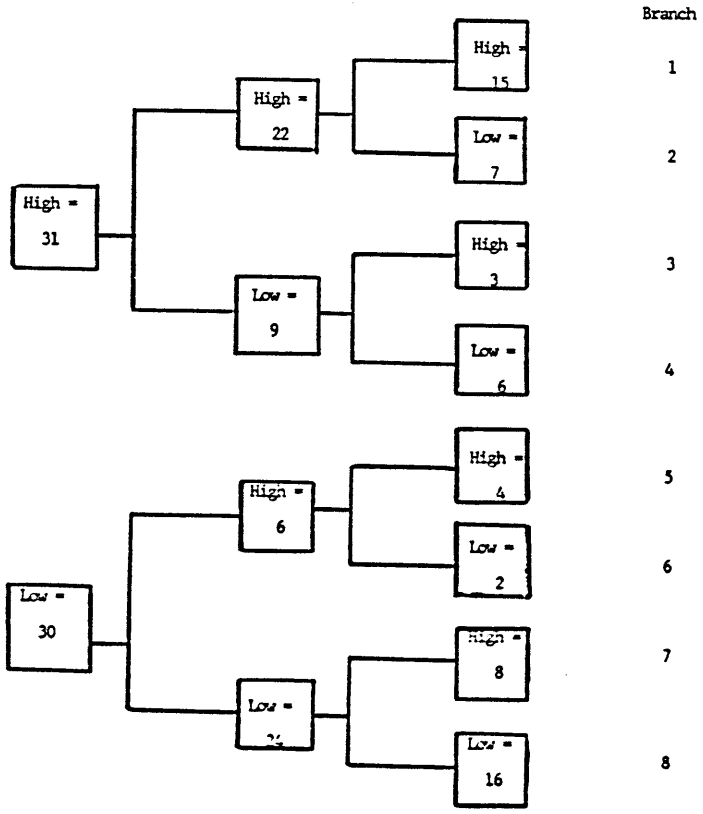
2. Low systematic leadership in inservice education (ISE-II) combined with low experience impact in ISE (ISE-I) is associated with low complexity of innovation (IP-II) in two out of three cases.

3. High systematic leadership in ISE (ISE-II) combined with low experience impact in ISE (ISE-I) is associated with low complexity of innovation (IP-II) in two out of three cases.

4. Low systematic leadership in ISE (ISE-II) combined with high experience impact in ISE (ISE-I) is

Exhibit 5.2.1


Input
Systematic Leader-
ship in ISE (ISE-II)
Process
Overall Experience
Impact in ISE (ISE-I)
Product
Complexity of
Innovation (IP-II)


High = 31
High = 22
Low = 9
High = 15
Low = 7
High = 3
Low = 6
Low = 30
High = 6
Low = 24
High = 4
Low = 2
High = 8
Low = 16
Branch
1
2
3
4
5
6
7
8

associated with high complexity of innovation (IP-II) in two out of three cases.

Conclusion: While it is not possible to state causal relationships due to the concurrent nature of the data (see limitations in Chapter I), the assumption underlying the branching diagram is that input existed prior to process and product. Given this assumption we have reason to believe that systematic leadership in ISE (ISE-II) combined with overall experience impact in ISE (ISE-I) is consistently associated with complexity of innovation (IP-II). However, high complexity of innovation (IP-II) does not appear to occur as an association with high systematic leadership (ISE-II) in the absence of high experience impact (ISE-I). Conversely, low leadership (ISE-II) appears to be associated with high complexity of innovation (IP-II) in the presence of high experience impact (ISE-I). Experience impact (ISE-I) seems consistently associated with complexity of innovation (IP-II) regardless of leadership (ISE-II). However, leadership (ISE-II) is nearly always associated with experience impact (ISE-I).

Weighted Net Percentage Difference. Exhibit 5.2.2 shows the computations relative to the association

of (1) systematic leadership in ISE (ISE-II) with (2) overall experience impact in ISE (ISE-I), and (3) complexity of the innovation (IP-II). An analysis of the WNPD supports the following conclusion: High complexity of innovation (IP-II) programs have a 34 per cent greater chance of occurring when associated with high experience impact (ISE-I), but high systematic leadership in ISE (ISE-II) appears to make little difference. This conclusion is reached keeping in mind the limitations imposed by the design of the study in reference to concurrent time frames. It is not intended to infer causal effects, rather to suggest associations only.

Comparison of Results. Examination of the conclusions from both the branching diagram analysis and the WNPD indicates general agreement that experience impact (ISE-I) is the strongest, most consistent association. However, since high leadership in ISE (ISE-II) is associated with high experience impact (ISE-I) and vice versa, the branching diagram calls into question the negative finding of the WNPD technique.

Exhibit 5.2.2

Leadership	Experience Impact		
Hi	Hi	Lo	
(31)	68%*	33%*	
	(22)	(9)	(31)
Lo	67%*	33%*	
(30)	(6)	(24)	(30)
	(28)	(33)	(61)

Independent Variables:
Leadership
Experience Impact

Dependent Variable:
Complexity

What effect does experience impact have controlling for leadership?

$$(.68 - .33) \times (22 + 9) = 10.85$$
$$(.67 - .33) \times (6 + 24) = \underline{10.20}$$
$$21.05/61 = .345$$

What effect does leadership have controlling for experience impact?

$$(.68 - .67) \times (28) = .28$$
$$(.33 - .33) \times (33) = \underline{0}$$
$$.28/61 = .0046$$

Conclusion: High complexity programs have a 34 % better chance of occuring when associated with high experience impact. High leadership appears not to be associated.

*% of schools who scored high in complexity.

The Association of Planning in Inservice Education with Overall Experience Impact in Inservice Education with Complexity of Innovation

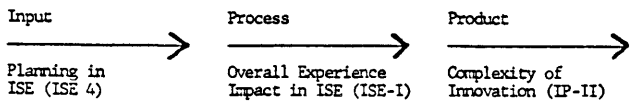
Branching Diagram Analysis. The variables associated are (1) systematic leadership in ISE (ISE-II), (2) overall experience impact in inservice education (ISE-I), and (3) complexity of innovation (IP-II). The branching diagram in Exhibit 5.3.1 shows these three variables in relation to each other. It is assumed that planning (input) may influence overall experience impact (process) which may in turn yield complexity of innovation (product).

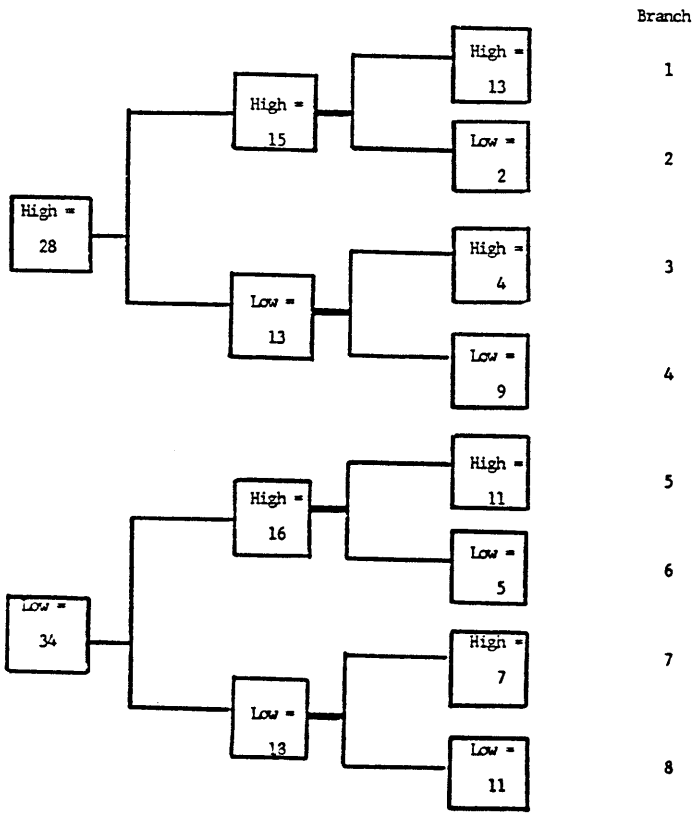
An analysis of the branching diagram supports the following statements:

1. High planning in ISE (ISE 4) combined with high overall experience impact in ISE (ISE-I) is associated with high complexity of innovation (IP-II) in seven out of eight cases.

2. Low planning in ISE (ISE 4) combined with low overall experience impact in ISE (ISE-I) is associated with low complexity of innovation (IP-II) in almost two out of three cases.

Exhibit 5.3.1


Input
Process
Product
Planning in ISE (ISE 4)
Overall Experience Impact in ISE (ISE-I)
Complexity of Innovation (IP-II)


Branch
High = 28
High = 15
Low = 13
Low = 34
High = 16
Low = 13
High = 13
Low = 2
High = 4
Low = 9
High = 11
Low = 5
High = 7
Low = 11
1
2
3
4
5
6
7
8

3. High planning in ISE (ISE 4) combined with low overall experience impact in ISE (ISE-I) is associated with low complexity of innovation (IP-II) in two out of three cases.

4. Low planning in ISE (ISE 4) combined with high overall experience impact in ISE (ISE-I) is associated with high complexity of innovation (IP-II) in two out of three cases.

Conclusion: Planning in inservice education (ISE 4) combined with overall experience impact in inservice education (ISE-I) is consistently associated with complexity of innovation (IP-II). However, high planning in inservice education (ISE 4) does not appear to be associated with high complexity of innovation (IP-II) as is high experience impact in ISE (ISE-I). Once again, it is important to remember that causal relationships are not being stated due to the limitations imposed by the data collection. Only associations are suggested.

Weighted Net Percentage Difference. Exhibit 5.3.2 shows the computations relative to the association of (1) planning in inservice (ISE 4), (2) overall experience impact in ISE (ISE-I), and (3) complexity of

Exhibit 5.3.2

Planning ISE		Experience Impact: Hi	Experience Impact: Lo	
	Hi (28)	87%*	31%*	
		(15)	(13)	(28)
	Lo (34)	69%*	39%*	
		(16)	(18)	(34)
		(31)	(31)	(62)

Independent Variables:
Planning ISE
Experience Impact

Dependent Variable:
Complexity

What effect does experience impact have controlling for Planning (ISE)?

$$(.87 - .31) \times (15 + 13) = 15.68$$
$$(.69 - .39) \times (16 + 18) = 10.20$$
$$25.88/62 = .42$$

What effect does planning have controlling for experience impact?

$$(.87 - .69) \times (31) = 5.58$$
$$(.31 - .39) \times (31) = -2.48$$
$$3.10/62 = .05$$

Conclusion: High complexity of innovation (IP-II) programs have a 42% better chance of occuring when associated with high experience impact (ISE-I). High planning (ISE-4) appears to have little association.

*%of schools who scored high in complexity

innovation (IP-II). An analysis of the WNPD supports the following conclusion: High complexity of innovation (IP-II) programs have a 42 per cent greater chance of occuring when associated with high experience impact in ISE (ISE-I), but high planning (ISE-4) appears to make little difference. This conclusion is reached keeping in mind the limitations imposed by the design of the study in reference to concurrent time frames. It is not intended to infer causal effect, but only to suggest associations.

Comparison of Results. Examination of the conclusions from both the branching diagram analysis and the WNPD indicates general agreement that the association of ISE-I with IP-II is the strongest most consistent association. However, since high planning (ISE 4) is associated wht high experience impact (ISE-I), the branching diagram calls into question the negative finding of the WNPD technique.

The Association of Systematic Leadership in Inservice Education with Overall Experience Impact in Inservice Education with Extent of Innovation

Branching Diagram Analysis. The variables associated here are (1) systematic leadership in ISE

(ISE-II), (2) overall experience impact in inservice education (ISE-I), and (3) extent of innovation (IP-I). The branching diagram in Exhibit 5.4.1 show these three variables in relation to each other. It is assumed that systematic leadership (input) may influence overall experience impact (process) and which may in turn yield extent of innovation (product.)

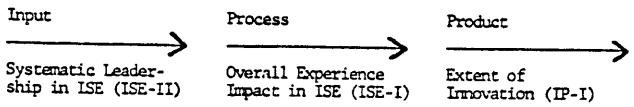
An analysis of the branching diagram supports the following statements:

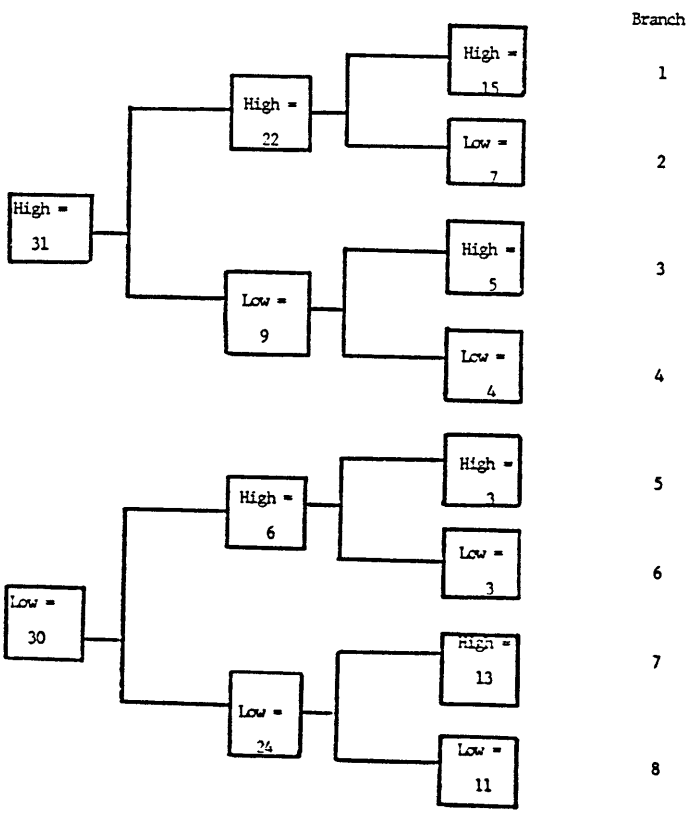
1. High systematic leadership in ISE (ISE-II) combined with high experience impact in ISE (ISE-I) is associated with high extent of innovativeness (IP-I) in two out of three cases.

2. Low systematic leadership in ISE (ISE-II) combined with low experience impact in ISE (ISE-I) is associated with high extent of innovation (IP-I) 54 per cent of the time and with low extent of innovation (IP-I) 46 per cent of the time.

3. High systematic leadership in ISE (ISE-II) combined with low experience impact in ISE (ISE-I) is associated with high extent of innovation (IP-I) 56 per cent of the time and with low extent of innovation (IP-I) 44 per cent of the time.

Exhibit 5.4.1


Input
Process
Product
Systematic Leader-ship in ISE (ISE-II)
Overall Experience Impact in ISE (ISE-I)
Extent of Innovation (IP-I)


Branch
High = 31
High = 22
Low = 9
Low = 30
High = 6
Low = 24
High = 15
Low = 7
High = 5
Low = 4
High = 3
Low = 3
High = 13
Low = 11
1
2
3
4
5
6
7
8

4. Low systematic leadership in ISE (ISE-II) combined with high experience impact in ISE (ISE-I) is associated with high and low extent of innovation (IP-I) equally.

Conclusion: Systematic leadership in ISE (ISE-II) combined with experience impact in inservice education (ISE-I) is not consistently associated with extent of innovation (IP-I).

Weighted Net Percentage Difference. Exhibit 5.4.2 shows the computations relative to the association of (1) systematic leadership in ISE (ISE-II), (2) overall experience impact in ISE (ISE-I), and (3) extent of innovation (IP-I.) An analysis of WNPD supports the following conclusion: Neither high experience impact in ISE (ISE-II) programs nor high systematic leadership in ISE (ISE-II) programs appear to be associated with the occurence of high extent of innovation (IP-I). This conclusion in reached without any intention of suggesting causal effect or the lack of causal effects. The limitations imposed by the data collection prevent such influence.

Comparison of Results. The Branching Diagram technique indicates a limited association which the WNPD

Exhibit 5.4.2

Leadership		Experience Impact: Hi	Experience Impact: Lo	
	Hi (31)	68%*	55%*	
		(22)	(9)	(31)
	Lo (30)	50%*	54%*	
		(6)	(24)	(30)
		(28)	(33)	(61)

Independent Variables:
Leadership
Experience Impact

Dependent Variable:
Extent of Innovation

What effect does experience impact have controlling for leadership?

(.68-.55) X (22 + 9) = 4.03
(.50-.54) X (6 + 24) = -1.20
2.83/61 = .05

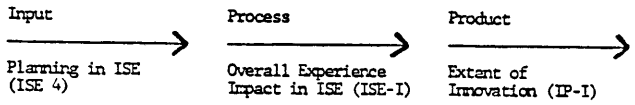
What effect does leadership have controlling for experience impact?

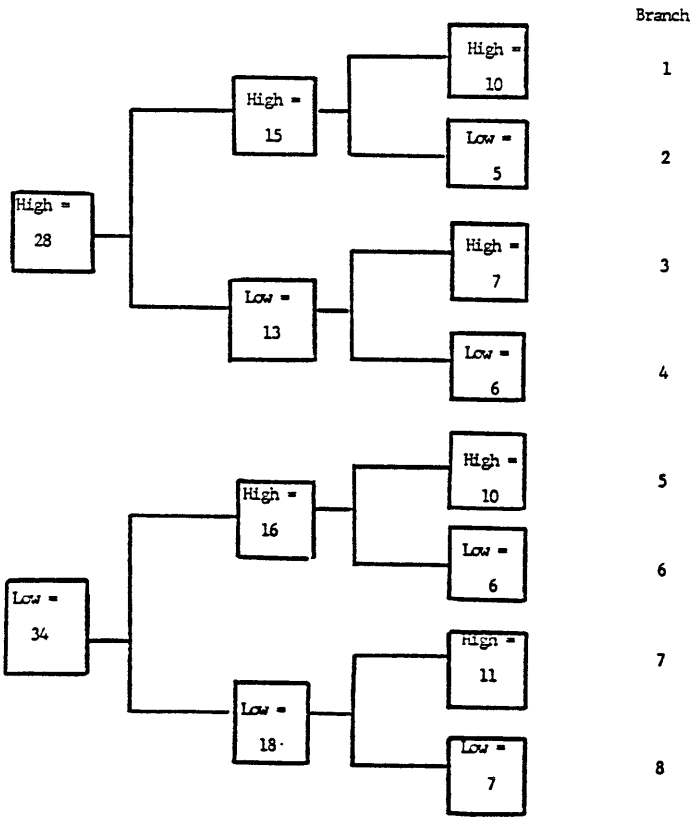
(.68-.50) X (28) = 5.04
(.55-.54) X (33) = .33
5.37/61 = .09

Conclusion: Neither high experience impact in ISE (ISE-I) programs nor high systematic leadership in ISE (ISE-II) programs appear to be associated with extent of innovation (IP-I).

*%of schools who scored high in extent of innovation

Exhibit 5.5.1


Input
Planning in ISE (ISE 4)
Process
Overall Experience Impact in ISE (ISE-I)
Product
Extent of Innovation (IP-I)


Branch
High = 28
High = 15
Low = 13
Low = 34
High = 16
Low = 18
High = 10
Low = 5
High = 7
Low = 6
High = 10
Low = 6
High = 11
Low = 7
1
2
3
4
5
6
7
8

fails to reveal. It appears that high systematic leadership (ISE-II) in combination with experience impact (ISE-I) does have an association with complexity of innovation, however limited. This conclusion is reached without intending any statement of causal effect due to the limitations imposed by the data collection. Association, only, is suggested.

The Association of Planning in Inservice Education with Overall Experience Impact in Inservice Education with Extent of Innovation

Branching Diagram Analysis. The variables associated here are (1) planning in inservice education (ISE-4), (2) overall experience impact in inservice education (ISE-I), and (3) extent of innovation (IP-I). The branching diagram in Exhibit 5.5.1 shows these three variables in relation to each other. It is assumed that planning (input) may influence overall experience impact (process) which may in turn yield extent of innovation (product).

An analysis of the branching diagram supports the following statements:

1. High planning in ISE (ISE 4) combined with high overall experience impact in ISE (ISE-I) is associated with high extent of innovation (IP-I) in two out of three cases.

2. Low planning in ISE (ISE 4) combined with low overall experience impact (ISE-I) is associated with low extent of innovation (IP-I) in 39 per cent of the cases and with high extent of innovation (IP-I) in 61 per cent of the cases.

3. High planning in ISE (ISE 4)combined with low overall experience impact in ISE (ISE-I) is associated with low extent of innovation (IP-I) in 46 per cent of the cases and with high extent of innovation (IP-I) in 54 per cent of the cases.

4. Low planning in ISE (ISE 4) combined with high overall experience impact in ISE (ISE-I) is associated with high extent of innovation (IP-I) in almost two out of three cases.

Conclusion: Planning in ISE (ISE 4) combined with overall impact in ISE (ISE-I) is not consistently associated with extent of innovation (IP-I). However, overall experience impact (ISE-I) is associated with extent of innovation (IP-I). Planning in ISE (ISE 4) cannot be considered a primary influencing factor except in combination with ISE-I.

Weighted Net Percentage Difference. Exhibit 5.5.2 shows the computations relative to the association of (1) planning in ISE (ISE 4), (2) overall experience impact in inservice education (ISE-I), and (3) extent of innovation (IP-I). An analysis of the WNPD supports the following conclusion: neither high experience impact in ISE (ISE-I) programs nor high planning (ISE 4) programs appear to be associated with extent of innovation (IP-I) although high extent of innovation programs have a 7 per cent better chance of occuring when associated with high ISE-I programs. High planning (ISE 4) does not appear to be associated. These conclusions are reached without intending to infer causal effects due to the limitations imposed by the concurrent time frame (see Chapter I). Associations, only, are intended.

Comparison of Results. Both techniques (WNPD and the branching diagram analysis) rule out planning in ISE (ISE 4) as being associated with high extent of innovation (IP-I) programs. It is possible to interpret the results of the branching diagram analysis as indicating a higher association of ISE-I with IP-I than the WNPD. The WNPD technique indicates little association of ISE-I with IP-I.

Exhibit 5.5.2

Planning ISE		Experience Impact: Hi	Experience Impact: Lo	
Hi (28)		66%*	54%*	
		(15)	(13)	(28)
Lo (34)		63%*	61%*	
		(16)	(18)	(34)
		(31)	(31)	(62)

Independent Variables:
Planning ISE
Experience Impact

Dependent Variable:
Extent of Innovation

What effect does experience impact (ISE-I) have controlling for Planning (ISE-4)?

$$(.66 - .54) \times (15 + 13) = 3.36$$
$$(.63 - .61) \times (16 + 18) = \underline{.68}$$
$$4.04/62 = .07$$

What effect does planning (ISE-4) have controlling for experience impact (ISE-I)?

$$(.66 - .63) \times (31) = .93$$
$$(.54 - .61) \times (31) = \underline{-2.17}$$
$$-1.24/62 = -.02$$

Conclusion: Neither high experience impact in ISE (ISE-I) programs nor high planning (ISE-4) programs appear to be associated with extent of innovation (IP-I) although high extent of innovation programs have a 7 % better chance of occuring when associated with high ISE-I programs. Planning (ISE-4) programs do not appear to be associated at all.

*% of schools who scored high in innovation

Association of Resources in ISE with Overall Experience Impact in ISE with Extent of Innovation

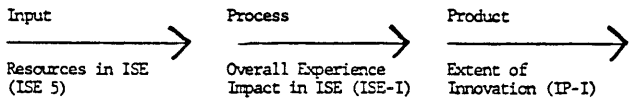
Branching Diagram Analysis. The variables associated here are (1) resources in ISE (ISE 5), (2) overall experience impact in ISE (ISE-I), and (3) extent of innovation (IP-I). The branching diagram in Exhibit 5.6.1 shows these three variables in relation to each other. It is assumed that resources in inservice (input) may influence overall experience impact in ISE (process) which may in turn yield extent of innovation (product).

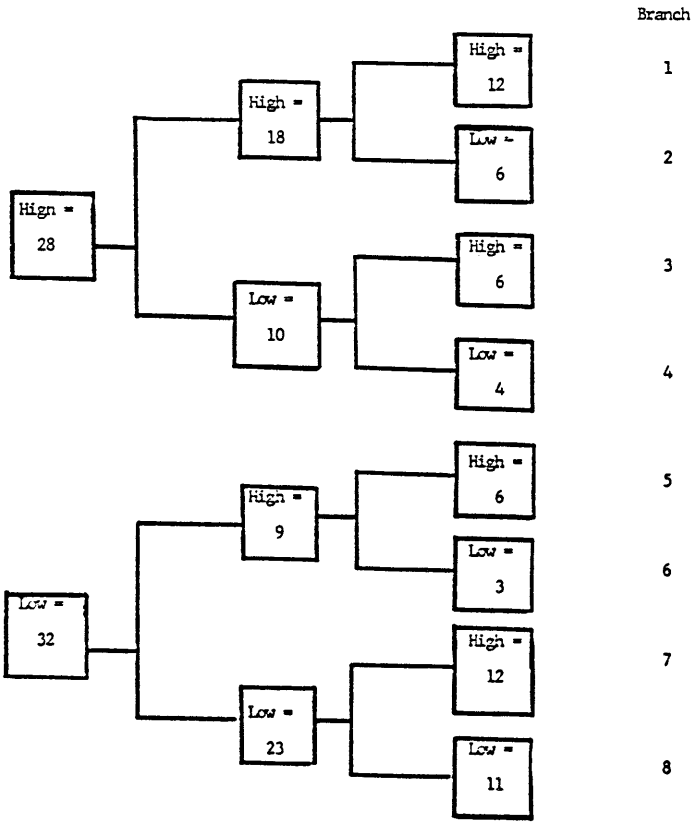
An analysis of the branching diagram supports the following statements:

1. High resources in ISE (ISE 5)combined with high overall experience impact in ISE (ISE-I) is associated with high extent of innovation (IP-I) in two out of three cases.

2. Low resources in ISE (ISE 5) combined with low overall experience impact in ISE (ISE-I) is associated with low extent of innovation (IP-I) in 48 per cent of the cases and with high extent of innovation (IP-I) in 52 per cent of the cases.

Exhibit 5.6.1


Input
Resources in ISE (ISE 5)
Process
Overall Experience Impact in ISE (ISE-I)
Product
Extent of Innovation (IP-I)


Hign = 28
High = 18
Low = 10
High = 9
Low = 32
Low = 23
High = 12
Low = 6
High = 6
Low = 4
High = 6
Low = 3
High = 12
Low = 11
Branch
1
2
3
4
5
6
7
8

3. High resources in ISE (ISE 5) combined with low overall experience impact in ISE (ISE-I) is associated with low extent of innovation (IP-I) in 40 per cent of the cases and with high extent in 60 per cent of the cases.

4. Low resources in ISE (ISE 5) combined with high overall experience impact in ISE (ISE-I) is associated with high extent of innovation (IP-I) in two out of three cases.

Conclusions: There is no consistent relationship between resources in inservice education (ISE 5) combined with overall experience impact (ISE-I) in association to extent of innovation (IP-I). However, overall experience impact (ISE-I) is associated with extent of innovation (IP-I).Due to limitations imposed by the data collection, causal effects are not inferred.

Weighted Net Percentage Difference. Exhibit 5.6.2 shows the computations relative to the association of (1) resources in ISE (ISE 5), (2) overall experience impact in ISE (ISE-I), and (3) extent of innovation (IP-I). An analysis of the WNPD technique supports the following conclusion: neither high ISE-I programs nor high resources (ISE 5) programs appear to be associated with in high extent of innovation (IP-I), but high

Exhibit 5.6.2

Resources		Experience Impact: Hi	Experience Impact: Lo	
	Hi (28)	67%*	60%*	
		(18)	(10)	(28)
	Lo (32)	67%*	52%*	
		(9)	(23)	(32)
		(27)	(33)	(60)

Independent Variables:
Resources
Experience Impact

Dependent Variable:
Extent of Innovation

What effect does experience impact (ISE-I) have controlling for resources (ISE-5)?

$$(.67 - .60) \times (18 + 10) = 1.96$$
$$(.60 - .52) \times (9 + 23) = \underline{4.80}$$
$$\overline{6.76}/60 = .11$$

What effect does resources (ISE-5) have controlling for experience impact (ISE-I)?

$$(.67 - .67) \times (27) = 0$$
$$(.60 - .52) \times (33) = \underline{2.64}$$
$$\overline{2.64}/60 = .04$$

Conclusion: Neither high ISE-I programs nor high resources (ISE-7) programs appear to be associated with high extent of innovation. However, high extent of innovation (IP-I) programs have an 11% better chance of occuring when associated with ISE-I.

*% of schools who scored high in extent of innovation.

extent of innovation programs (IP-I) have an 11 per cent better chance of occuring when associated with high experience impact (ISE-I). Resources do not appear to be associated. Due to limitations imposed by data collection causal effects are not inferred.

Comparison of Results. Examination of the conclusions from both the branching diagram analysis and the WNPD technique indicates general agreement related to the lack of association of resources (ISE 5) with extent of innovation (IP-I). It is possible to interpret the results of the branching diagram analysis as indicating a higher association of ISE-I with IP-I than does the WNPD technique.

Other Findings

The following is a summary of other findings discovered in the statistical analysis that are not necessarily associated with the hypotheses or research questions. A summary of the procedures was reported in Chapter III.

1. Systematic leadership in ISE (ISE-II) and overall experience impact in ISE (ISE-I) are significantly related to each other. The Pearson product

moment correlation was used to compute the correlation coefficient between mean scores on systematic leadership in ISE (ISE-II) and overall experience impact in ISE (ISE-I). The correlation coefficient obtained was .72. The table of significance of correlation coefficients (Glass and Stanley, 1970) indicate the obtained coefficient was significant at less than the .01 level.

2. Extent of innovativeness (IP-I) and complexity of innovation (IP-II) are significantly related to each other. The Pearson product moment correlation was used to compute the correlation coefficient between mean scores on extent of innovation (IP-I) and complexity of innovation (IP-II). The correlation coefficient obtained was .64. The table of significance of correlation coefficients (Glass and Stanley, 1970) indicated the obtained coefficient was significant at less than the .01 level of confidence.

3. There is a significant difference (.03 level of confidence) in the overall experience impact in ISE (ISE-I) in schools that have innovated in only one to three grades as compared to those which have innovated in four or more grades. These significant differences are not found, however, between schools that have

innovated in one to three subjects as compared to schools that have innovated in all subjects.

4. There is a significant difference at less than the .01 level of confidence in the extent of innovativeness (IP-I) in schools that have innovated in only one to three grades as compared to those who have innovated in four or more grades. This is also true at the .02 level of confidence for schools that have innovated in one to three subjects as compared to schools that have innovated in all subjects.

5. There is a significant difference at less than the .01 level of confidence in the complexity of innovation in programming (IP-II) in schools that have innovated in only one to three grades as compared to those who have innovated in four or more grades. This is not true, however in schools that have innovated in one to three subjects as compared to schools that have innovated in all subjects.

6. Exhibit 5.7.1 displays information on schools' scores for each variable used in the study of relationships. An examination of the distribution of those scores according to each relationship tested reveals patterns in at least three instances that are of interest to report.

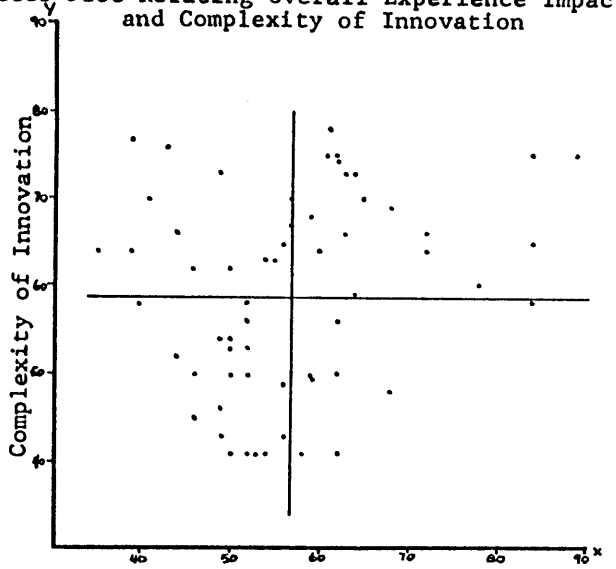
EXHIBIT 5.7.1

Descriptive Information on Schools' Scores for Each Variable Used In Study of Relationships

Variable	Mean Score	Range	S.D.	Frequency of Schools Above Mean	Below Mean
Overall Experience Impact in ISE (ISE - I)	56.85	35 to 89	11.54	28	33
Systematic Leadership in ISE (ISE - II)	60.09	38 to 86	10.17	31	30
Extent of Innovation (IP - I)	61.46	36 to 75	10.58	36	25
Complexity of Innovation (IP - II)	58.96	41 to 78	11.58	30	31

Exhibit 5.7.2

Scatter Plot Relating Overall Experience Impact in ISE and Complexity of Innovation



The distribution of scores relating overall experience impact in ISE and complexity of innovation (Exhibit 5.7.2) shows two schools that had highly complex innovations but reported data that indicated very low scores in overall experience impact in in-service education. These low scores were more than one standard deviation below the mean. This is an unusual circumstance in regard to the other scores as displayed by the scatter plot (Exhibit 5.7.2). Information on both schools indicates programs that differed in scope and emphasis but not in the complexity of the existing innovation. One school had individualized in all subjects K-6 with 100 per cent of the teachers (N=14) and 100 per cent of the students (N=349) participating. The other school had individualized in all subjects but only two grades (K-1) were involved with only 19 per cent of teachers (3 out of 16) and 27 per cent of the students (111 out of 409) participating. Obviously there was a difference in the scope and emphasis of the innovation. The high scores on complexity of innovation were received due to solid evidence that the elements of

varying teaching strategies, staffing patterns and facilities were present in both programs. Their scores on these elements were almost identical. Both scored low in overall experience impact in inservice education. Their scores on the elements that make up overall experience impact in inservice education were not identical. The data reported on inservice indicated different kinds of practices although each scored low cumulatively in overall experience impact. The first school that individualized in all subjects K-6 with 100 per cent of teachers and students reported a large variety of ISE experiences but they were not provided very often. The other school had very little variety but the few experiences that were provided were provided frequently. The first school reported almost no use of consultants at all. The second school reported some use of consultants and those that were used were used fairly often. The first school reported a wider range of the level of content of the experiences than did the second school.

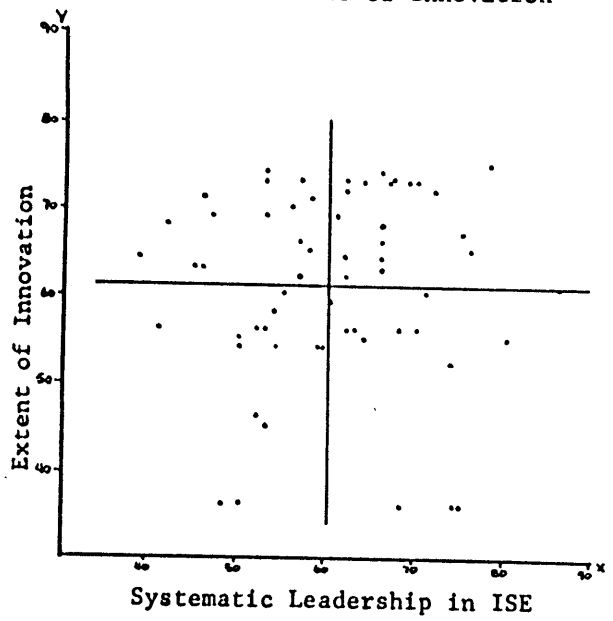
Few likenesses could be found in these schools with the exception of their innovative practices. Examination of available information on the schools does

not suggest why these two schools scored so differently from the other schools. These atypical schools illustrate the severe limitations of utilizing simple survey data with scaling techniques.

The distribution of scores relating to systematic leadership in ISE and extent of innovation (Exhibit 5.7.3) shows three schools that had very high scores on extent of innovation but reported data that indicated relatively low scores in systematic leadership in ISE. This is an unusual circumstance in regard to the majority of the other scores as displayed by the scatter plot (Exhibit 5.7.3). The programs differed in the scope of their existing innovation but not on the extent. Two of the three schools (School #48 and #27) were both innovating in reading only but the likenesses end there. One of the schools (#48) included grades 1-5 with 35 per cent (N=7) of the faculty and 100 per cent (N=500) of the students participating while the other school (#27) included only 1 grade, 1 teacher and only 17 per cent (N=10) of the students participating. The third school (school #24) had installed the innovation in all subjects, grades K-6 with 100 per cent (N=28) of the teachers and 100 per cent (N=475) of the students participating.

Exhibit 5.7.3

Scatter Plot Relating Systematic Leadership in ISE and Extent of Innovation



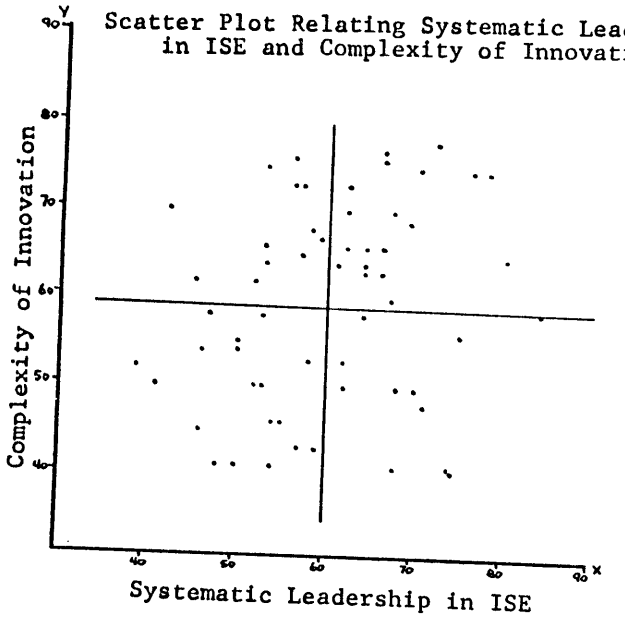
Obviously differences existed in the scope and emphasis of all three innovations. However, the high scores on extent of the innovation in each school were almost identical, and solid evidence existed that the elements of learner involvement, learner autonomy and differentiation of assignment were present in each of their program.

The data reported on inservice indicate similar practices in systematic leadership in ISE. Two of the three schools (#48 and #24) did some amount of planning on both the district and campus level that often included principals and central office staff as well as sometimes including teachers from the district and campus. These scores were almost identical. The other school (#27) planned only on the district level. All three schools provided some variety of content in ISE with the participation being voluntary only sometimes with minimal resources allocated to support the ISE activities.

Examination of available information on the schools does not suggest why these three schools scored so differently from the other schools. Once again, the survey data or scaling criteria may simply have been inadequate.

Exhibit 5.7.4

Scatter Plot Relating Systematic Leadership in ISE and Complexity of Innovation



The distribution of scores relating systematic leadership in ISE and complexity of innovation (Exhibit 5.7.4) shows one school that had a highly complex innovation but reported data that indicated a very low score in systematic leadership in ISE. The low score was more than 1 standard deviation from the mean and in fact was almost 2 standard deviations from the mean. This is an unusual circumstance in regard to the other scores as displayed by the scatter plot (Exhibit 5.7.4). This is the same school (# 48) that was described previously in which reading was the subject matter that had been individualized in grades 1-5 with 35 per cent of the faculty (7 out of 20) and 100 per cent (N=500) of the students participating. The high score on complexity of innovation was received due to solid evidence that the elements of varying teaching strategies, staffing patterns and facilities were present in the program. The data reported on inservice indicate the major emphasis in systematic leadership in ISE was in the area of planning wherein some amount of overall planning existed in the school. Other indicators of systematic leadership were almost non-existent although some evidence was present.

Examination of available information does not suggest why the school scored so differently from the other schools. It is certainly possible that the survey data and/or scaling criteria may have been inadequate.

Summary of Findings

Hypothesis Testing

All four hypotheses were rejected. There does not appear to be a significant relationship between (1) overall experience impact in ISE (ISE-I) and extent of innovation (IP-I); (2) systematic leadership in ISE (ISE-II) and extent of innovation (IP-I); (3) overall experience impact in ISE (ISE-I) and complexity of innovation (IP-II); (4) systematic leadership in ISE (ISE-II) and complexity of innovation (IP-II).

Branching Diagram Analysis and WNPD

Interpretation of the branching diagram analysis indicates the consistent association of high systematic leadership in ISE (ISE-II) with complexity of innovation (IP-II), and high planning in ISE (ISE 4) with complexity of innovation (IP-II) when each is

combined with overall experience impact (ISE-I). The overall experience impact (ISE-I) appears to be the critical variable in each analysis. The WNPD does not contradict the association but eliminates high systematic leadership (ISE-II) and high planning in ISE (ISE 4) as making any difference in either association. The technique affirms the importance of overall experience impact (ISE-I). The analysis of the association of planning in ISE (ISE 4) with extent of innovation (IP-I) and resources (ISE 4) with extent of innovation (ISE-I) reveals through the use of both techniques (the Branching Diagram Analysis and the WNPD) that although there is no consistent relationship in either, both indicate an association with overall experience impact (ISE-I). Overall experience impact in ISE (ISE-I) appears to be a critical variable. (Exhibit 5.8). It must be kept in mind throughout the interpretation of data that causal effects are <u>not</u> inferred. The limitations imposed by the data collection procedures prevents such inference. Association, or the lack of assoication, only, is intended as a possible interpretation.

Exhibit 5.8

Summary of WNPD and Branching
Diagram Analysis Results*

Input	Process	Product	B.D.A. Analysis	WNPD Analysis
ISE-II	ISE-I	IP-II	strong association ISE-I singled out as critical	strong association IP-II 34% better chance of occuring in association with ISE-I; ISE-II makes no difference
ISE 4	ISE-I	IP-II	strong association ISE-I determined as critical	strong association IP-II 42% better chance of occuring in association with ISE-I; ISE 4 makes no difference
ISE-II	ISE-I	IP-I	no association	no association
ISE 4	ISE-I	IP-I	weak/no association but ISE-I determined as important	no association ISE-I slight importance
ISE 5	ISE-I	IP-I	no association but ISE-I determined as important	no association ISE-I slight importance

*Associations or the lack of association only is intended. Causal effects are not intended due to the limitations imposed by the data collection.

In this chapter data associated with the inservice education practices of the innovative schools were obtained and presented as characteristic variables (overall experience impact in ISE and systematic leadership in ISE). These variables were tested for relationships with the schools' innovative program characteristics identified in Chapter IV. These analyses included the testing of hypotheses and the utilization of two techniques in multivariate analyses (branching diagram analysis and the weighted net percentage difference). These analyses were made in order to identify inservice education practices that might have implications for innovative program practices. A summary of the findings and the implications as well as recommendations for further research are presented in Chapter VI.

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CHAPTER VI

SUMMARY AND CONCLUSIONS

This chapter contains a review of the study, a summary of the findings, suggested implications, and suggestions for further research.

Review of the Study

Two primary objectives provided direction to this study. The first objective was to provide a descriptive analysis of data related to inservice practices and innovative programming practices in schools in which specified innovations in individualizing instruction could be documented as to their actual existence. The second objective was to determine any relationships which might possibly exist between the inservice practices and the innovative programming practices.

In order to meet these objectives a research plan was developed whereby essential data were obtained from the innovative schools and from the Texas Education Agency. Data from the schools were obtained through the use of a questionnaire. Data from the Texas Education

Agency were obtained through examination of carefully documented observation reports on the installed validated innovations.

The variables utilized in designing the survey instrument were drawn from the current literature regarding inservice education about what information is needed to be able to sufficiently describe training. These variables were: experience, voluntarism, consultants, planning, resources, content, level of experience, and incentive. The variables utilized in the analysis of innovative programming practices were derived from the criteria for acceptance set by the network to which the schools belong. The variables were: objectives, learner involvement, learner outcomes, pacing, differentiation of assignment, varying staffing patterns, varying teaching strategies, flexibility in classroom arrangement, materials and equipment, and facilities.

The second objective of the study was to determine any potential relationships which existed between the inservice practices and the innovative programming practices. The variables were derived from combinations of those utilized in the descriptive study

and based upon the current literature in inservice education and innovation. These variables were: overall experience impact in inservice education, systematic leadership in inservice education, extent of innovation, and complexity of the innovation.

Four research questions and four hypotheses were formulated in order to meet the objectives of the study. The majority of questions were answered by simple tabulation and presentation of related data. The hypotheses were tested using traditional statistical procedures. The examination of other relationships between inservice education practices and innovative programming practices were accomplished by using the branching diagram analysis and the weighted net percentage difference techniques. These are techinques which allow for a multivariate analysis on simple data without elaborate statistical procedures.

Limitations

The major limitation of the study is the fact that current practices of both kinds, inservice education and innovations, were studied during the same

current time frame. The assumption is made that conditions existing at the time of the innovative programs existed previous to innovation. The simultaneous nature of the events under study prevent inferring casuality in any of the relationships studied.

Other limitations include the elimination of secondary schools. Only elementary schools were used in the study. All of the schools were located in the State of Texas. The previously gathered validating data on innovation was utilized with no testing for validity. Even though the findings were affected by the limitations, these limitations were not so major as to prevent the use of the gathered data.

General Conclusions

The following conclusions were reached from the collected data and its subsequent analysis:

Inservice Practices. The schools reported using a wide variety of experiences in inservice education with a trend to use less traditional experiences more often than traditional types. They used the state designated days (five) as well as many other days for inservice. The innovative schools spent time well above and beyond the minimum requirement.

Very few of the schools reported inservice education at any time other than on school days during school hours. Heavy use was made of released time to facilitate the inservice experiences. There was a marked degree of freedom reported in the choice of participation in inservice although participation was rarely perceived as being completely voluntary.

A variety of consultants was used equally from both inside and outside the district. Consultants from outside the district were usually from the Education Service Center while usage of consultants from inside the district was evenly distributed among teachers and central office staff.

Planning for inservice was reported as extensive on both the campus and district level. Central office staff involvement was high with a tendency for more district level planning to be present than campus level. A variety of personnel was involved.

Funds were reported as being available on the building level for the majority of the schools with released time available to almost all of the respondents. A variety of content was reported in the programming with curriculum subject matter most extensively

used. Objectives of the inservice were reported as frequently being on the "awareness" level. It would appear that they were highly task oriented. The training appears to have been restricted by task and need. It does not appear to have been divergent, exploratory, or evaluative in orientation.

The teachers were reported as being motivated equally by extrensic and intrensic factors.

The data also indicate that the respondents generally believed that the innovation was the result of inservice activities and that inservice was necessary for continued implementation of their innovation. They did not, however, generally report an increase in inservice activities when their program was initiated.

Innovative Practices. The survey of innovative programming practices reveals that although the schools must meet certain specific criteria in order to be in the network and admittedly they are all at one end of the continium in innovative programming practices, there still is quite an amount of diversity in their practices.

One theme that runs through the data for the majority of schools (however, not all) is not allowing

students to freely participate in the selection of activities, objectives or assignments. This was found to be the case for the majority of programs in several different variables (objectives, learner autonomy and differentiation of assignment). Student selection of materials and freedom of movement were overwhelmingly used by all of the programs. Student selection of what might be considered curricula matters was not a general characteristic of the program.

There was an extremely high amount of learner involvement in all of the programs, and every program reported use of pacing and differentiation of assignment (with the exception of student selection). A great variety of staffing patterns was evidenced as well as teaching strategies.

Multi-grade space and/or open area was by far in the majority of use, however, labs and shops do not appear to be available in every program. Materials use appeared to be an integral part of every program.

Testing of the Hypotheses. There was no significant (.05 level) relationship between overall experience impact in inservice education and extent of innovation.

There was no significant (.05 level) relationship between systematic leadership in inservice education and extent of innovation.

There was no significant (.05) level) relationship between overall experience impact in inservice education and complexity of innovation.

There was no significant (.05 level) relationship between systematic leadership in inservice education and complexity of innovation.

Analyses of Relationships. The association of high systematic leadership in inservice education with complexity of innovation, and high planning in inservice education with complexity of innovation appears to be consistent when each are combined with overall experience impact in ISE. When those associations are examined for the specific effects of each variable, it appears that overall experience impact is the critical variable. Although the association is not contradicted, high systematic leadership and high planning are eliminated as making little difference in either association while overall experience impact emerges as the important association. There is also no consistent relationship in the association of planning in inservice with extent

of innovation or in resources in inservice with extent of innovation. However, overall experience impact appears to be a critical variable in both associations.

Interpretation of Findings

The findings from this study are interesting particularly when they are compared with current "common practices" in Texas schools as determined by Killough in 1977 and Creekmur in 1977. Creekmur's study was of a sample of 165 districts representing a cross section of the state. Killough studied each of the twenty regional education service centers. The findings from these two studies are abstracted and compared with the inservice education practices of the innovative programs (Exhibit 6.1). The comparison indicates important differences in almost every area.

Sweeping generalizations obviously cannot be made from this one study. It must be kept in mind that this is a single study of a small number of schools. Relationships were, however, established even though they were not statistically significant (.05 level).

The findings are consistent with what we might have expected. It may, therefore, not be unreasonable

Exhibit 6.1
Comparison of Common ISE Practices and Innovative School ISE Practices

Practice Descriptor	Common Practice	Innovative School Practices
Amount of Time in ISE	Minimum number of days	Well beyond the minimum
Scheduling	Regularly scheduled ISE days	Additional release time
Experience Offered	Limited variety, mostly meetings	Wide variety
Content	Nearly one-half program specific	Wide variety of content
Incentives	Required to attend	Voluntary choices... Release time. Travel opportunities.....
Funding	Approximately $4.00 per student	Unknown
Planning	School principal dominated, unsystematic short term planning	Coordinated school and district planning
Consultants	Limited selection	Each school used from both inside and outside the district

to suggest that successful efforts at implementing new instructional programs may require inservice education that is of a higher quality than that which we normally practice.

If the findings of this study are valid, inservice education may be an important ingredient in the operation of successfully implemented innovative programs. The characteristics of the inservice education associated with these innovative programs is such that an accidental relationship hardly seems possible.

How can the findings be explained? It might be that extensive inservice education existed in these districts as a tradition and therefore provided an encouraging atmosphere in which innovation could grow. Another explanation might be that the innovators utilized inservice experiences to facilitate their efforts. If either one of these explanations are accepted, then there exists a case for a casual link between inservice education and educational improvement.

There are other explanations. It is possible that the inservice education program and the innovative program happened to co-exist in the same buildings at the same time. This explanation may be more doubtful

than others, however, due to the scarcity of resources for both inservice education and program implementation. Another explanation might be that teachers engaged in an innovative program might be motivated by it and seek inservice education to satisfy their need for further professional growth. If this were true, it would still be difficult to deny some cause and effect.

It is a curious matter of interest that the report from the schools indicates that the schools do not perceive a change (increase or decrease) in in-service activities when they initiated the innovations. It is interesting to speculate on this particularly in view of the additional information reported that the innovation could not continue without maintaining the present level of inservice education activity. It could be that their perception of past (over two years) in-service education acitvity is faulty and that an increase or decrease of activity actually took place. Or it could be that a high quality inservice education program was already firmly in place before beginning the change effort. This may imply that a tradition of professional growth activities needs to be present before innovative efforts begin. It also probably

implies that these schools view inservice efforts in a context which does not confuse the activity with the actual innovation.

Implications

The findings that have been described and interpreted above suggest several implications for school districts that are contemplating the implementation of an innovation. These may be summarized as follows:

1. It is probable that an extensive inservice education program needs to be in place or at least ready to be put in place for an innovation to work.

2. The more complex the innovation that is to be adopted the more overall experience impact in inservice is necessary. This means a wide variety of experiences that includes such things as workshops, individual or small group consultation, visitation to other schools, grade level meetings, directed self-study, demonstration, and attendance at national conferences; a wide variety of consultants who come from inside the district as well as outside; and content that

allows presentation of information on various levels other than just the "awareness" level.

3. District-wide, central office staff support of inservice education is needed to make an innovation work. This includes allocation of resources in the form of funds and released time; extensive planning efforts that include a high level of involvement of principals, teachers and central office staff; and the provision of consultants from a variety of sources both inside and outside the district.

4. When plans are made to install or adopt an innovation in a school it is important to make sure that the plans for extensive inservice education are not limited in the provision of time to the small number of state provided days, but provides additional times in which the personnel are released from their regular duties.

5. School personnel need to be able to choose from a wide variety of content in ISE that can be tailored to individual needs.

6. The practice of releasing every teacher in the district at the same time will not facilitate the kind of inservice education that is necessary for the

effective implementation of an innovation. The practice does not allow for the tailoring of inservice to individual needs or the differentiation of activities for all participants. The practice probably should be eliminated except fror urgent circumstances when the entire faculty needs to be together.

7. Extensive, high quality inservice education appears necessary for continued implementation of an innovation.

The problem of making innovations "work" s a matter of great concern in the field of education. Most new programs are not implemented successfully. They tend to be discontinued long before they are fully installed or else corrupted in process. Sometimes the innovation can be shown to be unsuccessful in operation because of poor performance by teachers and other responsible personnel. Regardless, it seems logical to expect inservice education to be a critical factor in making for a new program success. The primary implication of this study is that continuing inservice education is an important factor in the effort to improve educational pactices.

If this level and quality of inservice education was an important factor in schools where they were highly motivated to maintain good practices, how much more important it is to provide training as a stimulus to better practice for those who are not motivated. The majority of teachers are more than likely to continue with the same old practices. They are not as highly skilled and/or motivated as the teachers in these innovative schools. Surely it is reasonable to suggest that if skilled and motivated teachers require this level and quality of inservice that others require it even more so.

This study found two types of unusual practices (highly innovative programs and highly quality inservice education) coexisting side by side. Inservice education was perceived to be important even after the programs had reached the point of dissemination, and indeed the ISE was considered to be necessary for continued implementation. If this quality of inservice education was perceived as important just for maintenance of the program, how much more important that quality becomes for beginning such an innovation.

Suggestions for Further Research

There are suggestions for additional research that emerge from this study. Because of the limitations on this study imposed by the fact that current practices of both kinds, inservice education and innovations, were studied during the same time frame, it is suggested that these practices be studied again only in a longitudinal framework. The innovation could be studied as it emerges from already existing longitudinally documented inservice education practices.

Another possibility for further research is the study of systematic leadership in inservice education in a more direct manner. This could be accomplished through on-site observation and analysis of practice. Certainly the possibility exists that the variable of systematic leadership as defined in this study needs to be studied using more pervasive measures that would allow a finer discrimination. Analyzing organizational climate variables as well as leadership style variables with existing instruments might generate findings that the estimates in this study were not likely to produce.

An investigation in which a comparison could be made of inservice education practices and relationships with programming practices in schools were innovations have been installed and schools that are less innovative is another suggestion. The design would, again, need to include provision for establishing evidence of inservice education conditions previous to the innovation. The tendency to find positive relationships in this study rather than statistically significant ones probably stems from the homogeneity of the groups. It might be possible to recheck the variables in a more prowerful design where hetereogeneity is available.

Other information that might be of value could be obtained from secondary schools in which we might hypothesize that not only would the practices be different but so might the relationships.

Another area suggested is that of further examination of incentives for participation in inservice education. It is possible that comparison with a control group of less innovative schools might yield important information particularly if it were possible to introduce other variables such as geographic location, elementary/secondary level, union/non-union

membership. The power of teacher involvement as presenter, planner and evaluator as an incentive should be investigated.

The final suggestion is related to planning. Previous research has indicated the importance of local campus planning related to inservice but does not stress overall district and campus planning. This study indicated not only campus and district level planning but extensive central office staff involvement with a tendency for more district level planning to be present than campus level. This difference in findings should be further investigated to determine if this is just associated with this particular study or if total school district involvement is necessary for an installed innovation.

References

Creekmur, Jimmie L. "A Descriptive Analysis of Inservice Education Programs of Selected Texas School Systems Utilizing Operational Criteria." Unpublished doctoral dissertation, The University of Texas at Austin, 1977.

Killough, Don. "A Descriptive Analysis of the Roles of Education Service Centers in Providing Inservice Training Programs for the Public School Staffs of Texas During the 1975-76 School Year." Unpublished doctoral dissertation, The University of Texas at Austin, 1977.

APPENDICES

Appendix A

"Inservice Programming Practices"

INSERVICE PROGRAMMING PRACTICES

1975-1976 School Year

Please assist us in determining the features of inservice education programming that were associated with your campus for the 1975-76 school year by replying to each of the items included in this questionnaire. Demographic data are included. Thank you!

School District_____ County_____

School Campus_____ Service Center Region Number_____

Level_____ Position of person completing questionnaire_____

GENERAL FORMAT OF INSERVICE EDUCATION PROGRAMMING

Following is a list of experiences sometimes associated with inservice programming. In the right hand column, circle the designation which indicates the number of times which the experience was provided to members of your faculty as part of planned inservice during the past year (1975-1976).

		None	1-3 times	4-6 times	7-10 times	over 10 times
1.	Workshop involving doing, discussing, demonstrating and not just listening	A	B	C	D	E
2.	College course involving regular class sessions, readings, assignments	A	B	C	D	E
3.	College course-practicum or laboratory type	A	B	C	D	E
4.	Consultation involving individual or small group conferences with a specialist or supervisor on problems	A	B	C	D	E
5.	Directed self-study involving a planned sequence of events	A	B	C	D	E
6.	Visits to other schools involving careful selection of places to visit - prior arrangement	A	B	C	D	E
7.	Lectures involving a formal presentation by specialist	A	B	C	D	E
8.	Demonstration involving planned opportunity to see particular practice or procedure in operation	A	B	C	D	E
9.	National Conference or Institute focused on a specific topic	A	B	C	D	E

	None	1-3 times	4-6 times	7-10 times	over 10 times
10. Grade level meeting	A	B	C	D	E
11. Curriculum writing session	A	B	C	D	E

12. Other (describe)_____

_____

13. Circle the number which indicates the type of participation in the inservice programming.

Never Voluntary	Sometimes Voluntary	Often Voluntary	Almost Always Voluntary	Always Voluntary
1	2	3	4	5

In the right hand column, circle the number which indicates when the inservice was held during the past year (1976-76).

	Off duty time - Summer and/or holiday	During School Hours no release time	During School Hours with release time	After School Hours	Saturdays	Designated Inservice Days
14. Workshop involving doing, discussing, demonstrating and not just listening	1	2	3	4	5	6
15. College course involving regular class sessions, readings, assignments	1	2	3	4	5	6
16. College course - practicum or laboratory type	1	2	3	4	5	6
17. Consultation involving individual or small group conferences with a specialist or supervisor on problems	1	2	3	4	5	6
18. Directed self-study involving a planned sequence of events	1	2	3	4	5	6
19. Visits to other schools involving careful selection of places to visit - prior arrangement	1	2	3	4	5	6

		Off duty time - Summer and/or holiday	During School Hours no release time	During School Hours with release time	After School Hours	Saturdays	Designated Inservice Days
20.	Lectures involving a formal presentation by specialist	1	2	3	4	5	6
21.	Demonstration involving planned opportunity to see particular practice or procedure in operation	1	2	3	4	5	6
22.	National Conference or Institute focused on a specific topic	1	2	3	4	5	6
23.	Grade level meeting	1	2	3	4	5	6
24.	Curriculum writing session	1	2	3	4	5	6
25.	Other (describe)_____	1	2	3	4	5	6

CONSULTANTS

How many times were each of the following types of consultants used during the past year? Circle the designation which indicates the number of times a consultant was used.

		None	1-3 times	4-6 times	7-10 times	over 10 times
26.	Education Service Center	A	B	C	D	E
27.	University or College	A	B	C	D	E
28.	Private agency	A	B	C	D	E
29.	Teacher from your own building	A	B	C	D	E
30.	Teacher, but not from your own building	A	B	C	D	E
31.	Central Office Staff	A	B	C	D	E
32.	Other (describe)_____	A	B	C	D	E

What proportion of the total consultant time would you estimate was used in: (Circle appropriate #)

	0-10%	11-25%	26-75%	76-90%	91-100%
33. Large group work (10 or more participants)	1	2	3	4	5
34. Small group work (less than 10 participants)	1	2	3	4	5
35. Work with individuals	1	2	3	4	5

PLANNING

	Never	Sometimes	Often	Almost Always	Always
36. Does planning for inservice programming take place on the district level?	1	2	3	4	5
37. Does planning for inservice programming take place on the campus level?	1	2	3	4	5
To what extent have the following individuals or groups been involved in planning of the inservice programming....some may not have been involved and would be marked (1)	1	2	3	4	5
38. Building principal	1	2	3	4	5
39. Central Office Staff	1	2	3	4	5
40. Group(s) of teachers from the district	1	2	3	4	5
41. Group(s) of teachers from within the campus	1	2	3	4	5
42. Individual teacher(s)	1	2	3	4	5
43. Other (describe)_____	1	2	3	4	5
44. To what extent are evaluation or needs assessment results utilized in planning subsequent inservice activities?	1	2	3	4	5

On what level was the content of the experiences associated with inservice programming during the past year (1975-1976)?

		Never	Sometimes	Often	Almost Always	Always
56.	Inservice objectives and activities were directed toward awareness of ideas and information	1	2	3	4	5
57.	Inservice activities were directed toward systematic evaluation of the relative advantages and feasibility of changes	1	2	3	4	5
58.	Inservice activities were directed toward leading us to consideration of the adoption of specific changes	1	2	3	4	5
59.	Inservice activities were directed toward the development of practical skills and techniques	1	2	3	4	5
60.	Inservice activities were directed toward the reviewing of problems and/or side effects of changes we had adopted	1	2	3	4	5
61.	To what extent do you think inservice program activities were related to needs of the faculty?	1	2	3	4	5

INCENTIVE

The following is a list of reasons why teachers might participate in inservice programming activities. In your opinion, to what extent have these reasons influenced your teachers' participation in activities during the past year (1975-1976)?

		Never	Sometimes	Often	Almost Always	Always
62.	Required by the school district	1	2	3	4	5
63.	Required by a campus plan	1	2	3	4	5
64.	To fulfill a project requirement	1	2	3	4	5
65.	To gain skills and knowledge which help fulfill the personal desire of the teacher to be helpful to others	1	2	3	4	5
66.	Association with other adults	1	2	3	4	5
67.	To fulfill a legitimate need to have time away from students	1	2	3	4	5
68.	Opportunity to have the teacher's own professional skills acknowledged	1	2	3	4	5
69.	To keep skills updated	1	2	3	4	5
70.	To keep abreast of trends in order to plan professionally for the future	1	2	3	4	5

RESOURCES

45. Are there any funds designated for inservice programming that are used at the local building level?

1	2	3	4	5
Never	Sometimes	Often	Almost Always	Always

46. What is the approximate amount of funds?

1	2	3	4	5
Under $100	$101-$500	$501-$1000	$1001-$2500	$2501 and above

47. Is release time for teachers during school hours available?

1	2	3	4	5
Never	Sometimes	Often	Almost Always	Always

48. Estimate the extent to which release time for teachers during school hours was available during the 1975-76 school year.

1	2	3	4	5
Never	A few hours 3 or less	A day or two	Several days 3 or more	More than 3 days

PROGRAMMING CONTENT

Circle the number which best indicates the content of the inservice programming for the past year.

	Never	Rarely	Sometimes	Often	Almost Always
49. Curriculum subject matter	1	2	3	4	5
50. Methodology of instruction	1	2	3	4	5
51. Organizational strategies	1	2	3	4	5
52. Use of educational technology (e.g. tape recorders, projectors, teaching machines)	1	2	3	4	5
53. Use of materials in instruction	1	2	3	4	5
54. Assessment of achievement	1	2	3	4	5
55. Management of student behavior	1	2	3	4	5

ACTIVITIES RELATED TO DSII PROGRAM

	Not at All	Somewhat	A Lot	Quite a Bit	A Great Deal
71. To what extent has inservice education been related to your 1976 DSII program?	1	2	3	4	5
72. Was there an increase in inservice education activities when you initiated the program chosen for the 1976 DSII network?	1	2	3	4	5
73. To what extent is inservice education necessary to continued implementation of your DSII program?	1	2	3	4	5
74. To what extent is your 1976 DSII network program the result of inservice education activities	1	2	3	4	5

GENERAL INFORMATION

75. How large is your campus enrollment?_____

76. How many teachers are on the faculty of the campus? Regular Classroom _____

Special Teachers_____

Aides_____

77. Who has the primary responsibility for implementing curricular, instructional, and/or organizational change within your building?

_____ Principal

_____ Each individual teacher

_____ Grade level groups or teams of teachers

_____ Central Staff administration officer(s)

_____ Central Staff instruction officer(s)

_____ Other (please describe)_____

78. What is the program identified for inclusion in the DSII network?_____

_____

79. How many teachers are involved in the DSII network program in your school?_____

80. How many children are involved in the DSII network program in your school?_____

THANK YOU!

Appendix B

Documentation for
Selection into DSII Network

Nomination Form
Program Self-Evaluation Report Form
Team Observation Report Form

76 DSII

NOMINATION FORM
1976 DEMONSTRATION SCHOOLS IN INDIVIDUALIZED INSTRUCTION

Nominations are now being accepted until September 19 for schools for the 1976 DSII network. Selection of the schools for the network will be made during the fall by groups of educators from school districts, service centers, teacher education institutions, regional laboratories, and the Texas Education Agency under the leadership of a statewide, representative, steering committee.

PLEASE READ THE STATEMENT ON THE BACK OF THIS FORM BEFORE MAKING NOMINATIONS.

In making the final selection of 1976 schools, the steering committee will use the following criteria:

The school has a successful program in which instruction is individualized.
Planned evaluation procedures indicate effectiveness of the program in this school.
The school has had an individualized program for at least one year.
Teachers, administrators, and community are supportive of the program.
Facilities are such that visitors can be accommodated. Rooms are large enough so a limited number of visitors can move about to observe the program. There is space for orientation also.
The school is interested in telling others about its program.
The school plans to continue the program.

Region Number_____

Name of campus_____

Name of school district_____

Name of superintendent_____

Address of school district: Street _____

City_____ Zip_____ Phone_____

Is there a specific program being nominated? If so, describe it briefly:

_____

_____

_____

_____

Person making nomination_____ Title_____

Address_____
Street City Zip

If you would like to nominate a school, fill out this form and return it to Vaughn Aldredge, Division of Dissemination, Texas Education Agency, 201 East 11th, Austin, Texas, 78701, by September 19.

THE DEMONSTRATION SCHOOLS IN INDIVIDUALIZED INSTRUCTION network began operation in January 1972 with 35 schools participating. This year, the fourth for the project, there are 87 schools involved. The number of visitors has more than doubled, and the reaction among school people has been enthusiastic.

THE PURPOSE OF THE NETWORK is to move good ideas from school to school. The participants have been selected because they have effective programs in individualized instruction and have validated this effectiveness through ongoing evaluation.

INDIVIDUALIZED INSTRUCTION has many meanings for many people. Yet, in its simplest form, it is a system of organizing learning experiences around the individual needs of students, whether working alone or in groups. It is an approach for providing experiences which are compatible with each student's particular sytle of learning, and for incorporating the student's skills and abilities in terms of knowledge acquired and knowledge desired.

REGARDLESS OF THE APPROACH, however, individualized instruction never asks the teacher to abdicate responsibility for teaching. The word "individualized" modifies "instruction," implying that the teacher's role at all times is a vital one. That role includes analyzing, prescribing, instructing, guiding, leading, motivating, counseling, stimulating, always working to discover every possible means for realizing the potential of the individual learner.

TO REFER TO INDIVIDUALIZED INSTRUCTION as a single, uniform procedure is, of course, totally unwarranted and incorrect. It is not necessarily a new facility, a specific methodology, a new curriculum, special tutorial arrangements, programmed learning, one-to-one instruction, or independent study. Neither is it to be equated with teaching each student individually. Most likely it contains degrees of all of these elements, but to isolate one element and call that "individualized instruction" is inadequate and misleading.

THIS FORM OF INSTRUCTION requires that three principal conditions are met. First, it is necessary to have a diverse array of goals and objectives. Secondly, a monitoring procedure to provide information about current status is necessary to permit decision making with a high degree of confidence. Thirdly, for any given learner, there must be many alternative methods to reach each objective.

IF THESE CONDITIONS ARE MET, these features will be evident: (1) a flexible, workable system of intra-class grouping will be used; (2) teachers and students will be utilizing a variety of materials, selected and assigned after careful diagnosis of the individual student's needs; (3) there will be differentiation of assignment, based on careful planning and containing an efficient system of record keeping; (4) each student will be experiencing a feeling of autonomy, having played a part in setting objectives and establishing the activities to be undertaken to reach those objectives; (5) tutoring, both teacher-student and student-student will be used to help the individual student learn.

A PROGRAM OF INDIVIDUALIZED INSTRUCTION can be as "individual" and unique as the differences encountered among children in a group. If it is a workable program, it is providing an education for children which will help them become self-actualizing, self-evaluating, self-directing individuals who are concerned, capable, and competent as they leave the public schools of Texas.

THE NETWORK OF DEMONSTRATION SCHOOLS IN INDIVIDUALIZED INSTRUCTION - 1976

Program Self-Evaluation Report

The following program in your school _____ has been nominated for the 1976 network of Demonstration Schools in Individualized Instruction. If you wish your program to be considered, please complete the following form and have two teachers in the individualized program complete similar forms and return them to Vaughn Aldredge, Coordinator, DSII, Texas Education Agency, before _____, 1976. The self-evaluation form will give you and your teachers some idea of the kinds of things which the visiting team will be looking for as they observe the individualized instruction program in your school.

Circle the number by each item which most nearly corresponds to the practice in your school. Circling a #1 indicates that this element of individualized instruction is rarely found in your program; #3 indicates that this element of individualized instruction is a feature sometimes found in your program; #5 indicates that this element of individualized instruction is a striking feature of your program.

In making the selection of schools for the 1976 network, the Steering Committee, composed of representatives from local schools, service centers, teacher education institutions, a regional laboratory, and the Texas Education Agency, will use the following criteria:

The school has a successful program in which instruction is individualized.
Planned evaluation procedures indicate effectiveness of the program in this school.
The school has had an individualized program for at least one year.
Teachers, administrators, and community are supportive of the program.
Facilities are such that visitors can be accommodated. Rooms are large enough so a limited number of visitors can move about to observe the program. There is space for orientation also.
The school is interested in telling others about its program.
The school plans to continue the program.

Element of Individualized Instruction	Rating Scale				
1. Autonomy for learner--Students have an opportunity to exercise some initiative in planning and implementing their own activities.	1	2	3	4	5
Comments: _____					
2. Pacing Expectations--Pacing is geared to individual needs. The rapid learner may move ahead; the slower student is not pressured beyond his/her potential.	1	2	3	4	5
Comments: _____					

3. Objectives--Instructional objectives are based on a diagnostic analysis of learning needs; are clearly specified; and are understood by students, parents, and teachers. 1 2 3 4 5

Comments: _____

4. Differentiation of Assignment--Students work on different tasks which they may have helped select, which fit their levels of accomplishment, and which allow for advancement and/or recycling. 1 2 3 4 5

Comments: _____

5. Grouping--Groups vary in size and purpose and are re-formed frequently. 1 2 3 4 5

Comments: _____

6. Staffing--Teachers, with the help of aides and others, work in teams to prepare, teach, and evaluate programs. 1 2 3 4 5

Comments: _____

7. Teaching Strategies--Students work independently and in groups, using a variety of materials. 1 2 3 4 5

Comments: _____

8. Classroom--Classroom arrangement is flexible and functional. 1 2 3 4 5

Comments: _____

9. Overview--The program functions well with all elements contributing in a desired balance to its success. 1 2 3 4 5

Comments: _____

10. Evaluation: Diagnosis of Needs--How are individual learning needs systematically diagnosed in your program? Indicate the practices employed and the extent they are used.

a. _____ 1 2 3 4 5

b. _____ 1 2 3 4 5

c. _____ 1 2 3 4 5

11. Evaluation: Program Quality--How is your program systematically evaluated for quality of operation and learning outcomes? List the steps that are used to evaluate the program at this time and the extent to which each step is a part of the total evaluation plan.

a. _____	1	2	3	4	5
b. _____	1	2	3	4	5
c. _____	1	2	3	4	5

d. Have any studies been conducted comparing the results of the individualized instruction in terms of pupil outcomes with the results of pupil outcomes in traditional programs?

Yes _____ No_____ If yes, briefly describe the findings.

_____

12. Which of the following do you utilize in evaluating the program?

a. Criterion referenced tests _____

b. Teacher made tests _____

c. Standardized tests _____

d. Diagnostic tests (identify)_____

e. Classroom observations _____

f. Visiting consultants _____

g. Performance tests _____

h. Comparative data _____

i. Other_____

GENERAL INFORMATION

When was your program initiated?_____

Do you intend to continue this program?_____

How many visitors can you accommodate at one time?_____

Check the box which indicates how often you can have visitors:

_____everyday _____twice a week _____weekly _____every two weeks

What grades and/or subjects are involved in the individualized instruction?

_____

How many teachers are involved in the individualized instruction program?_____

How large is your school enrollment?_____

How many students are involved in the individualized instruction program?_____

What time during the day is this program offered?_____

Signed_____ Title_____

Texas Education Agency
DSII Network - 1976
_____ Region Number

TEAM OBSERVATION REPORT FOR THE DSII NETWORK

This form is to be used by the visiting team leader, who will record on it the compilation of information collected by the team, and send the report to the Steering Committee.

School_____

Principal_____

Person to contact for visit_____

Address of School_____ Zip_____

Telephone_____ District_____

Superintendent_____

Team leader (name and title)_____

Team members (names and titles)_____

_____

_____

Name of Program observed_____

Grades_____ Subjects_____

No. of students in indiv. prog. _____ No. of teachers in indiv. prog. _____

Number of aides_____ Size of School_____

---

1. In general, four major configurations of individualized instruction have been identified. Check the phrases which most nearly describe the program which you visited, or explain any other configuration in the space provided.

   a. The school officials set objectives and designate materials. _____

   b. The school officials set objectives; the learner selects materials from an array provided. _____

   c. The learner sets objectives; the school officials designate materials. _____

   d. The learner sets objectives; the learner selects materials (both from an array provided). _____

   e. Other _____

2. Learner Involvement

   Randomly select 10 students and solicit responses to answer the following questions. Report percentage averages.

   a. Do you or your classmates ever get to choose between several things you want to learn in this class?
      %_____yes %_____no %_____sometimes

   b. Do you ever get to choose what you will do in this class?
      %_____yes %_____no %_____sometimes

   c. Do you ever help other students or do other students ever help you?
      %_____yes %_____no %_____sometimes

   d. Would it be all right if you made a suggestion about what you or your class might do or learn about?
      %_____yes %_____no %_____sometimes

   e. Do you like school? %_____yes %_____no %_____sometimes

TO WHAT EXTENT DID YOU OBSERVE OR SEE EVIDENCE OF EACH OF THE FOLLOWING FACTORS? Circle the appropriate number if you actually witnessed the element; put an x through the number if someone (student, teacher, principal) told you that the element was a part of the program. Marking a #1 indicates that during the visit the team discovered little or no evidence that this element of individualized instruction is present in the program studied; #3 indicates that the team discovered that this element is a feature sometimes found in some parts of the program; #5 indicates that solid evidence was present showing that this element is a striking feature of the program.

3. Learner Autonomy

   a. Some learning activities are student selected. 1 2 3 4 5

   b. Students are free to move about while working. 1 2 3 4 5

c.	Students can score some of their own work.	1	2	3	4	5
d.	Students can exercise some initiative in planning and implementing their own activities.	1	2	3	4	5
e.	Other_____	1	2	3	4	5
4.	Pacing					
a.	Students proceed at their own rates.	1	2	3	4	5
b.	Time allocated to a learning activity is adjusted to the needs and interests of each student.	1	2	3	4	5
c.	When a student demonstrates mastery of a skill or understanding of a subject, he or she does not have to perform tasks designed to teach the skill or develop the understanding.	1	2	3	4	5
d.	Opportunities are available for students who complete or demonstrate mastery of specified levels of work to move ahead to the next level or to have broadened experiences.	1	2	3	4	5
e.	Other_____	1	2	3	4	5
5.	Differentiation of assignment					
a.	Students work on different tasks.	1	2	3	4	5
b.	Students work with different kinds of materials.	1	2	3	4	5
c.	Students work with different levels of materials.	1	2	3	4	5
d.	Students in the same program pursue different objectives.	1	2	3	4	5
e.	There are opportunities to recycle with different materials and approaches in tasks where a student's understanding was insufficient to go on to new objectives.	1	2	3	4	5
f.	The teacher varies the directions and assistance for different students.	1	2	3	4	5
g.	A broad spectrum of activities is offered for each objective.	1	2	3	4	5
h.	Learning activities are student selected.	1	2	3	4	5
i.	Other_____	1	2	3	4	5

6. Varying Staffing Patterns

a. Two or more teachers had planned a segment of work.	1	2	3	4	5
b. An aide is available to work with students.	1	2	3	4	5
c. Other people such as curriculum specialists, consultants, and librarians are available.	1	2	3	4	5
d. Two or more teachers are responsible for working with the students.	1	2	3	4	5
e. One teacher has responsibility for the program.	1	2	3	4	5
f. Parents are available to work with students.	1	2	3	4	5
g. Other_____	1	2	3	4	5

7. Varied teaching strategies

a. Students work independently.	1	2	3	4	5
b. Cross-age tutoring is used.	1	2	3	4	5
c. Peer tutoring is used.	1	2	3	4	5
d. Teachers participate in small-group discussions.	1	2	3	4	5
e. Students have group discussions without a teacher present.	1	2	3	4	5
f. Large-group or whole-class activities are used.	1	2	3	4	5
g. On occasion, one teacher works with one student.	1	2	3	4	5
h. Groups are reformed periodically.	1	2	3	4	5
i. Other_____	1	2	3	4	5

8. Flexibility in classroom arrangement

a. Provisions are made for small group work.	1	2	3	4	5
b. Provisions are made for large group work.	1	2	3	4	5
c. Provisions are made for individual work.	1	2	3	4	5

d. Instructional materials are easily accessible. 1 2 3 4 5

e. Other_____ 1 2 3 4 5

9. If audiovisual material (films, filmstrips, etc.) is used, is it used in a manner that tends to individualize instruction?

_____ yes _____no If yes, give examples of how it is used._____

_____

10. List commercial materials and/or instructional systems which are being used in the program.

_____

_____

11. Which, if any, of the following types of teacher-made materials are used in the program? Use one checkmark for those available. Use two checkmarks for those actually in use on the day of the visit.

a. Learning packets, unipaks, mini-modules_____

b. Contracts_____

c. Learning stations_____

d. Learning prescriptions_____

e. Other (list or describe)_____

12. To what extent was a variety of different kinds of materials and equipment being used on the day of the visit? 1 2 3 4 5

13. How would you describe the facilities and the environment for individualized instruction?

a. Open area and/or multi-grade space used. _____yes _____no

b. Self-contained classrooms used. _____yes _____no

c. Individualized program is based on materials from a learning resource center or library. _____yes _____no

d. Pupils have access to the learning resource center and materials throughout the school day. _____yes _____no

before school _____yes _____no after school _____yes _____no Saturdays _____yes _____no

e. Materials and accompanying equipment are circulated freely to classrooms.

_____yes _____no

f. The librarian serves as a team member in planning and implementing the varied instructional experiences involving materials and their use.

_____yes _____no

g. Supervised laboratories are freely accessible.

throughout the school day _____yes _____no evenings _____yes _____no

Saturdays _____yes _____no

h. Supervised shops are freely accessible.

during school hours _____yes _____no evenings _____yes _____no Saturdays _____yes _____no

14. How would you describe the classroom atmosphere?

a. Good rapport student to students _____

b. Good rapport student to teacher _____

c. Good rapport student to other adults _____

d. Good rapport between students of different ethnic backgrounds _____

e. Good rapport between students and teachers of different ethnic backgrounds _____

f. Good rapport between teachers of different ethnic backgrounds _____

g. Good overall climate in the school _____

15. What evidence did you find of school and/or community reaction to the program?

Group	Nature of tenor of evidence if available
a. Parent volunteers	
b. News release	
c. Teacher comments	

d. Administrator comments

e. Attitude of students

f. Attitudes of parents

g. No evidence available

h. Other

---

16. Is there evidence that learner objectives (content and process) are clearly defined? (Please answer as completely as possible; the Steering Committee considers this a vital area.)

_____yes _____no If yes, explain_____

_____

17. How is the progress of each individual student in the program determined and reported?

_____

_____

18. What type of evaluation of the program is being carried on by the school? PLEASE BE SPECIFIC AND COMPLETE. EVALUATION OF THE PROGRAM BY THE SCHOOL IS A HIGH PRIORITY IN SELECTING PROGRAMS FOR THE NETWORK. Schools for which no evaluation of the program has been made are not eligible for the network.

_____

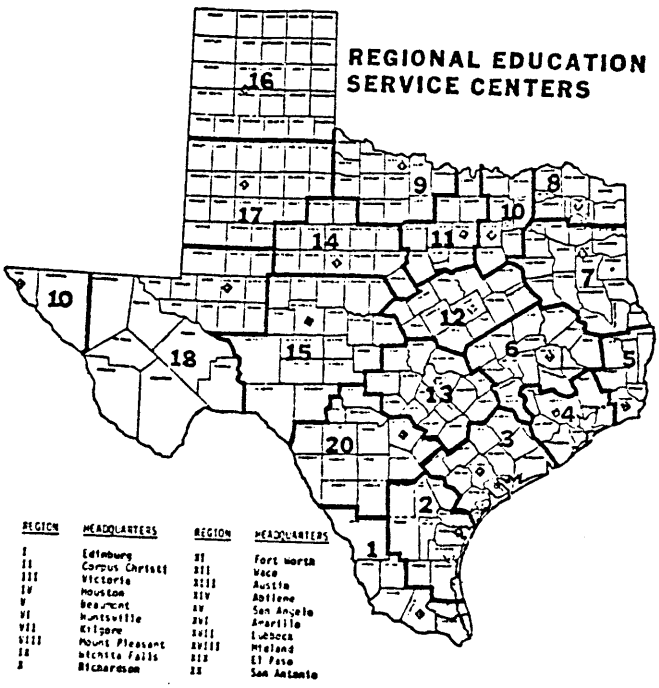
_____

19. Describe in a brief paragraph the team's major impressions of the program. Please be specific in identifying subject areas and levels to which you refer.

20. Describe in a brief paragraph areas of concern the team has about the program, its effectiveness, and its suitability to the situation, to the students involved, and to the network.

Appendix C

Location of Regional Education Service Centers in Texas



REGION	HEADQUARTERS	REGION	HEADQUARTERS
I	Edinburg	XI	Fort Worth
II	Corpus Christi	XII	Waco
III	Victoria	XIII	Austin
IV	Houston	XIV	Abilene
V	Beaumont	XV	San Angelo
VI	Huntsville	XVI	Amarillo
VII	Kilgore	XVII	Lubbock
VIII	Mount Pleasant	XVIII	Midland
IX	Wichita Falls	XIX	El Paso
X	Richardson	XX	San Antonio

Appendix D

Letters Requesting Completion of Instrument



EDUCATION SERVICE CENTER, REGION XIII

University of Texas at Austin
September 11, 1976

Dear Principal:

Congratulations on your selection for inclusion in the 1976 DSII network. Being included in the network is, of course, recognition of your effective program in individualized instruction which has been validated. As such you are among a select few in the state who are recognized as having an outstanding program that is recommended for replication.

I want to seek your assistance as one of the network schools. Enclosed is a copy of "Inservice Programming Practices" which is the data portion of my doctoral dissertation. I am trying to determine the features of inservice education programming for the 1975-76 school year in DSII network schools. Because your program represents a desirable model it is extremely important to know what type of inservice is associated with your total school campus.

Please know that I am aware that it comes to you at a very busy time, but most times are busy for school administrators! Therefore, would you please take the 15 minutes to fill it out, use the enclosed stamped envelope, and return it to me before September 30. I am expecting a 100% return which some tell me is doubtful and would be extremely unusual. But the DSII network schools represent a very unusual population, and so I continue to have that expectation!

Best wishes for a meaningful school year.

Helen Almanza

Helen P. Almanza
UT Austin
Education Service Center, Region XIII

If you would like a summary of the findings of this study, please check below and indicate where it should be sent:

_____yes _____ no NAME AND ADDRESS_____

_____

6504 TRACOR LANE AUSTIN, TEXAS 78721 TELEPHONE: 512 926-8080

October 25, 1976

Dear Principal:

I have not yet received your completed questionnaire on "Inservice Programming Practices" for the 1975-76 school year. I am, of course, anxious that the inservice which took place with your faculty be included in the study. In the secondary bracket almost 95% have responded, but in the elementary bracket there has only been a 50% response. If you want your campus to be included,please return the questionnaire to:

Helen Almanza
2206 Meadowbrook
Austin, Texas 78703

Thank you!

Helen Almanza

P.S. I am enclosing a copy of the original mailout in case the questionnaire has been misplaced.

VITA

Helen Katherine Plummer Almanza was born in Stonewall, Oklahoma, on August 4, 1939, the daughter of Ethel Black Plummer and Frank Slater Plummer. She attended public elementary school in Oklahoma City, Oklahoma, and American Dependent Schools in Bamburg, Germany, and Balboa, Panama. After completing her work at McCallum High School, Austin, Texas, in 1956, she entered The University of Texas at Austin. She received the degree of Bachelor of Arts with a major in Speech Pathology from The University of Texas at Austin in May, 1960. During the following two years she was employed as a speech pathologist in the Austin Public Schools, Austin, Texas. In 1963, she initiated a program for pre-school deaf children at the Cerebral Palsy Center in El Paso, Texas, and directed that program until 1965. At that time she entered the Graduate School of The University of Texas at Austin and attended the two Summer sessions. In March, 1966, she initiated a speech and hearing program in the Jourdanton Independent School District, Jourdanton, Texas. She worked as a speech pathologist in that program until 1968. In September, 1968, she entered Graduate School of The University of Texas at Austin as a full time student. She was a teaching

assistant in the Department of Speech during the 1968-69 school year. She was awarded the Rehabilitation Services Administration (RSA) Fellowship during the 1969-70 school year. She earned the degree of Master of Arts with a major in Audiology in August, 1970. In September, 1970, she was awarded an Educational Profession Development Act (EPDA) Fellowship for the Education Administration Program at The University of Texas at Austin. In January, 1971, she joined Education Service Center, Region XIII, Austin, Texas, as an educational consultant as part of an internship. Since that time she has continued to be employed with the Education Service Center. In 1961, she married Albert Almanza of Chihuahua, Mexico. Albert Boone was born in 1962 and Katherine Elizabeth was born in 1966.

Permanent Address: 2206 Meadowbrook
Austin, Texas 78703

This dissertation was typed by Sandy Lawrence.