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A STUDY OF SELECTED FACTORS
RELATED TO THE SUCCESSFUL
INSTITUTIONALIZATION OF
EDUCATIONAL CHANGE

A Dissertation Presented

By

JOHN JOSEPH SULLIVAN

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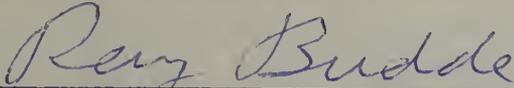
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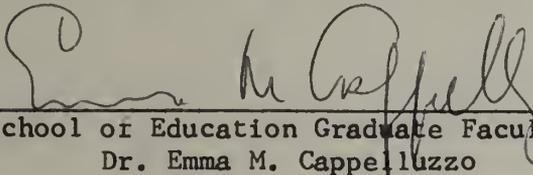
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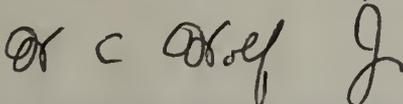
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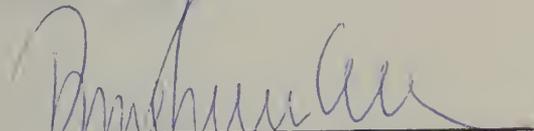
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A Study of Selected Factors Related to the Successful Institutionalization of Educational Change. (December 1973)

John J. Sullivan, A.B. College of the Holy Cross

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Directed by: Dr. Ray Budde

This study is designed to investigate demographic and descriptive data pertaining to selected aspects of educational innovations in a school system in order to identify which characteristics are associated with successful institutionalization. Identification of characteristics, not causality, is the primary focus of the research undertaken. The study examines selected characteristics of a) the innovator, b) the innovation, and c) the school system as related to attempts at innovation through Title III E.S.E.A. proposals in 1966 in Massachusetts. It concentrates on institutionalization of an innovation by the school system as a whole and thus examines characteristics on a system-wide basis. An attempt is made to identify those characteristics, associated with successful institutionalization, in the hope of indicating implications for future innovative efforts.

All 138 Title III E.S.E.A. proposals submitted in Massachusetts in 1966 provide the sample for this study. Questionnaires to the superintendents of school systems which submitted the proposals were used to gather data concerning the innovator, the innovation, and personnel aspects of the school system. Additional data were obtained from the U.S. Office of Education and from the State Department of Education concerning project approval and financial factors of the school system.

The factors to be studied were as follows:

a) concerning the innovator, the superintendent

- 1) cosmopolitaness
- 2) age and experience in education
- 3) level of education
- 4) professional prestige

b) concerning the innovation

- 1) distinctiveness
- 2) relative advantage
- 3) divisibility
- 4) simple substitution
- 5) complexity

c) concerning the school system

- 1) personnel utilization
- 2) communication adequacy
- 3) staff turn over
- 4) staff level of education
- 5) staff experience in education
- 6) average tax valuation per child
- 7) average instructional cost per pupil

One hundred and one questionnaires were returned out of one hundred and thirty-eight proposals for a 75% rate of return. These data indicate that Title III was successful in that 72% of approved projects were institutionalized, and, more remarkably, 41% of rejected proposals were also institutionalized. Totally, 55% of the proposals were adopted by the local school department. The Title III E.S.E.A. program in Massachusetts is effective in stimulating educational change.

The twenty-one item questionnaire indicated a significant difference between institutionalized proposals and proposals which were not adopted locally on only one factor. That factor was the number of categories of people participating in the development of the original proposal. It was significant at the .01 level that participation of more categories of

people was positively associated with the institutionalization of the innovation. Fifty-seven percent of institutionalized proposals had five or six categories of people participating; whereas eighty percent of the non-institutionalized proposals had from one to four categories involved.

The study compared data from 69 communities which submitted 101 proposals for educational innovations. In most ways these communities, their superintendents and school systems were more alike than different. They did vary from the state average in some respects though not significantly. Fifty-seven percent of the superintendents had a doctor's degree, and the average superintendent's salary was higher than the state average. The professional profile of the staff of these communities was very close to the state average. In affluence, these communities submitting Title III proposals were above the state average.

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41 Project 2012.5 etc.

CHAPTER I

INTRODUCTION

412 The Elementary and Secondary Education Act of 1965 is a comprehensive education law passed by the Federal government to aid elementary and secondary schools. Over the last seven years, it provided more than one billion dollars annually. President Lyndon B. Johnson said, upon signing the bill, "I believe deeply that no law I have signed or will sign means more to the future of America".¹ With this Act, the United States Office of Education changed from being a passive advisory agency to being an active one, distributing this one billion dollars annually.

413 Title III of this Act provided grants for supplementary educational centers and services and stimulated and assisted in the development of exemplary elementary and secondary school educational programs. Venture capital to try out innovations in education became available for the first time. Encouragement was given to co-operative or regional activities, in which adjoining school departments jointly carried out project activities. The development and testing of new models for educational programs was made possible by Title III.

¹Albert Piltz and Jerome Murphy, "New Education Act". The Instructor, (June 1965) p.5.

include the plan

All levels of the educational establishment quickly prepared to take advantage of all the E.S.E.A. Federal funds. The local educational agency employed project writers to prepare proposals. The Office of Education and state departments of education increased staff for their tasks of reviewing and approving proposals. The local educational agencies created thousands of additional teacher and administrator positions in these projects. The dream of adequate federal funds for education seemed to be a reality. Funds to try new and different activities were available. The creation of educational alternatives was supported and encouraged.

In the 1967 report on the first year of Title III, Richard I. Miller wrote,

"ESEA, title III in many ways exemplifies the success of the long and difficult struggle toward Federal support of education. Through title III, Federal grants are not only provided directly to local schools but are intended for the express purpose of stimulation, innovation and change in local educational patterns. The Federal Government has been given the opportunity to serve as a catalyst for effective educational change".²

Again Miller sounded a warning in 1967 when he wrote,

"Title III could be more appropriately entitled "Projects To Accelerate Change in Education" rather than the present means of PACE, which has "creativity" for the "C". The title's main mission is to bring about effective change in education, yet very little attention has been given to how the process of change really related to the increasing stream of approved projects."³

²U.S. Senate, Subcommittee on Education, Committee on Labor and Public Welfare. Catalyst for Change, National Study of ESEA Title III (Washington, D.C.: Government Printing Office, 1967). p. 15.

³Ibid. p. 46.

Three years later, the same Richard Miller wrote,

"We enter the seventies a bit sadder and wiser about innovation and changes. The euphoria that surrounded the unprecedented federal thrust into education has all but gone. We are no longer amateurs in the business of innovation and change, but neither are we professionals. That status may come in the seventies if we continue by means of study, trial, and error, and 'venturesomeness' to probe into how good ideas become institutionalized."⁴

This research aims to add to our knowledge about the institutionalization of educational innovations.

Statement of the Problem

This study is designed to investigate demographic and descriptive data pertaining to selected aspects of educational innovations in a school system in order to identify which characteristics are associated with successful institutionalization. Identification of characteristics, not causality, is the primary focus of the research undertaken. The study examines selected characteristics of a) the innovator, b) the innovation, and c) the school system as related to attempts at innovation through Title III E.S.E.A. proposals in 1966 in Massachusetts. Each of these characteristics is delimited more precisely in the scope of the study section later in this chapter. The study concentrates on institutionalization of an innovation by the school system as a whole and thus examines characteristics on a system-wide basis. The study attempts to identify those characteristics, associated with successful institutionalization, in the hope of indicating implications for future innovative efforts. It will also make recommendations for research, aimed at further identification of characteristics associated with successful institutionalization.

⁴Richard I. Miller, "Kinds of Change," Educational Leadership, January 1970, p. 333.

Scope of the Study

The study of the change process in education involves consideration of a) the innovation itself, b) the innovator, and c) characteristics of the school system, such as the social structure, the financial input, and personnel factors. These variables set the stage for identification of questions which are addressed in this study. Specifically: What characteristics of the innovation are related to the successful institutionalization? What characteristics of the innovator - the superintendent - are associated with successful institutionalization? What characteristics of the school system - such as the social structure, or economic or personnel factors - are associated with the successful institutionalization of the educational innovation? Given the five stages of the rural sociologist's adoption process, namely, (1) awareness, (2) interest, (3) evaluation, (4) trial, and (5) adoption, this study focuses upon only the adoption or institutionalization stage. Successful institutionalization occurs when the innovative idea, practice or product becomes an integral part of the operation of the school system - with or without any special funds allocated for that purpose.

All Title III, E.S.E.A. proposals submitted in 1966 in Massachusetts provide the raw material for this study. These proposals represent plans by a local school system to conduct an innovative program and to create change in education.

From the review of research described in chapter two, characteristics were selected as related to successful institutionalization. Data

will be collected on the following characteristics:

Concerning the innovator, the superintendent:

- (1) cosmopolitaness
- (2) age and experience in education
- (3) level of education
- (4) professional prestige

Concerning the innovation:

- (1) distinctiveness
- (2) relative advantage
- (3) divisibility
- (4) simplicity
- (5) complexity

Concerning the school system:

- (1) personnel utilization
- (2) communication adequacy
- (3) staff turn over
- (4) staff level of education
- (5) staff experience in education
- (6) average tax valuation per child
- (7) average instructional cost per child

Both successful and unsuccessful attempts to institutionalize these proposals are examined.

The superintendent is viewed as the innovator and adopter. Even though he or she may not have been the primary sponsor of the innovation in a school system, the responsibility for planning, follow through, staffing, and ultimately institutionalization, was assumed by this person. Thus, the superintendent is viewed as the primary innovator within a local education agency insofar as the Title III program activity is concerned.

Each of the 138 proposals submitted for Title III funds in 1966 were requests to carry out an innovation. Presumably each proposal was describing a practice, product, or idea that was innovative for that school system. No attempt has been made to determine that the proposed innovation would be a real change. Selected characteristics of the proposed

innovation are identified for study as noted above.

Looking at the school system as a social system, two factors were identified as being of considerable importance and within the scope of this study; i.e. 1) personnel utilization in the preparation of the proposal, and 2) communication adequacy. Other relevant factors, such as organizational climate, were not included because they could not be adequately treated in this study.

The data will be derived from the Title III, E.S.E.A. applicants in Massachusetts -- both those whose proposals were approved and those whose proposals were rejected. These Title III projects could have been funded for three years of operation. In some cases, there was one year of planning and then three years of operation. Thus the period of federal funding for all proposals approved in 1966 would terminate by the end of 1970. A survey in 1971, after termination of federal funds, is used to determine continuation with local funds.

Delimitation of the Study

Some data has been gathered from the official records of the U.S. Office of Education and the Massachusetts State Department of Education. Other data has been gathered by a questionnaire, mailed to the superintendent of schools in each community applying for Title III funds. The use of a questionnaire, despite trial use and refinement, gathers the subjective perceptions of the superintendent or his designee who completes the form. Thus the method of collecting data is one limiting factor. Incomplete returns of the questionnaire is another limiting factor.

The study aimed at all Title III proposals submitted from Massachusetts in the calendar year 1966. Thus it is limited in time and geographic area. In spite of this limitation, however, a considerable sample of 138 proposals was available. Only certain characteristics were selected

to be studied according to the review of research. Other characteristics might have been selected. Thus, the study is limited to the characteristics selected. For example, the superintendent's characteristics are studied, not those of the project writer, or project director or other staff.

Also the thrust is at the school system level, not the individual school level and not the individual teacher level. Change in education may take place in one classroom with one teacher, in one school with several teachers and a principal, or in the whole school system with teachers, principals, and a superintendent. Since Title III proposals were submitted by a school system with the approval of the superintendent, this study of change via Title III focuses on the superintendent and school system.

The successful or unsuccessful institutionalization of the innovation is the perceived data from the superintendent or his designee who completed the questionnaire. Thus, data obtained is perceived, not real, data. Institutionalization is determined from a positive response on the questionnaire concerning continuation or implementation of the innovation. There is no attempt to quantify the amount or extent of the adoption of the innovation in this study. The extent of adoption is outside the scope of this study.

Insofar as other states and other years are similar and comparable to Massachusetts in 1966, the results of the study may be generalized. The fact that all projects were approved by the U.S. Office of Education adds a measure of generalizability with those Title III projects approved in other states by the same U.S. Office of Education staff.

Significance of the Study

One constant in society today is change; this continuous change in the world and society is reflected in the public school system. The public school administrator must adjust to a changing social structure and provide leadership for the school system to determine what and how adjustments, changes, and innovations should be effected in order to improve education and to work to institutionalize those changes.

This study on characteristics related to successful institutionalization is important to provide more knowledge and direction for administrators in their task. It may assist administrators in that it will probe into characteristics associated with successful institutionalization. Then school system administrators may cultivate and develop those characteristics which are related to successful change. In addition, agencies granting funds to stimulate innovations and alternatives in education may also profit from this study. The identification of characteristics associated with successful institutionalization will assist them in determining the information to be included in their proposal and in establishing their criteria for approval. The significant findings of this study will have import to these two groups.

The area of change and innovation in education is one that has long been neglected. In the last two decades there has been greater interest and research into the change process in education. This study will add to and contribute to that body of research.

Since 1965, the United State government has been an active financial partner in public education. This study utilized all 1966 Title III E.S.E.A. proposals from Massachusetts, and thus will offer some measure of the effectiveness of the availability of these federal funds toward institutionalizing educational innovations. It may also offer some recommendations to improve the effectiveness of the Title III program.

Hypotheses

This study gathers data about Title III proposals in 1966 in Massachusetts to determine the relationship between successful institutionalization and the selected characteristics concerning the innovator, the innovation, and the social structure and economic and personnel factors of the school system. A study of the literature on innovations in education, with a study of research concerning characteristics associated with innovative administrators, along with discussions of this study with Title III directors in Massachusetts, lead to the selection of the characteristics to be studied. Following the selection of characteristics, a set of hypotheses was developed. The following hypotheses are tested.

General

- H₁ Most (78%) of Title III applications, which did not receive federal funds, were not carried out by any other source of funding.
- H₂ Most (78%) of Title III applications, which were approved, ceased all activity at the termination of federal funding.

The Superintendent, the innovator

- H₃ The superintendent, who is more cosmopolite as indicated by attending out of state educational conferences, is more successful in institutionalizing educational change.
- H₄ The superintendent, who is more cosmopolite as indicated by reading more professional journals, is more successful in institutionalizing educational change.
- H₅ The superintendent, who a.) is younger, b.) has fewer years of experience in education, and c.) has fewer years of experience as an administrator than his peers, is more successful in institutionalizing educational change.
- H₆ The superintendent, who has fewer years in his present position, is more successful in institutionalizing educational change.

- H₇ The superintendent, who has a higher level of education, is more successful in institutionalizing educational change.
- H₈ The superintendent, who has greater prestige as indicated by a higher salary, is more successful in institutionalizing educational change.

The Innovation

- H₉ The innovation which involved a simple substitution in teaching behavior rather than a new complex teaching skill, is more successful in being institutionalized.
- H₁₀ The innovation which could be accepted or rejected in part (rather than totally accepted or totally rejected) is more successful in being institutionalized.
- H₁₁ The innovation which is distinctive so that an observer would easily recognize it as something different, is less successful in being institutionalized.
- H₁₂ The innovation which requires extensive retraining of the teaching staff is less successful in being institutionalized.
- H₁₃ The innovation, whose evaluation was both by an outside consultant and an objective indication that the project activity was a more efficient way of reaching the project goals, is more successful in being institutionalized.

The School System

- H₁₄ The school system where the innovation was developed with the participation of more categories of personnel is more successful in institutionalizing educational change.
- H₁₅ The school system which has a regular publication for intra-staff communication is more successful in institutionalizing educational change.
- H₁₆ The school system with a high percent of new staff is more successful in institutionalizing educational change.
- H₁₇ The school system with a professional staff which has less than the average of years in public schools is more successful in institutionalizing educational change.
- H₁₈ The school system with a professional staff which has higher than the average in mean level of education is more successful in institutionalizing educational change.

H₁₉ The school system which has higher than the average tax valuation per child is more successful in institutionalizing educational change.

H₂₀ The school system which has higher than the average instructional cost per pupil is more successful in institutionalizing educational change.

Definition of Terms

Adoption - the full integration of an idea, practice, or product into an operation.

Institutionalization - the process of making an innovation an integral part of the organization with or without any special funds for that purpose. Institutionalization connotes adoption, but it doesn't suggest the extent of adoption (i.e., one teacher or an entire school system) or whether the adoption accurately reflected the project developments (i.e., an innovation like individually guided education which might have been the thrust of a project being adopted in a piecemeal fashion after the termination of the project). Each of these latter points is beyond the scope of this investigation.

Innovation - any practice, product, or idea which is new to the innovator.

Cosmopolitaness - the acquiring of new ideas from varied sources, as through wide reading or attendance at professional meetings.

Professional prestige - the quality of peer respect, which will be measured by the relative salary level.

Distinctiveness - is the quality of the innovative practice or product that renders it visible and identifiable as an innovation.

Relative advantage - is based on the evaluation of the innovation which indicates that it is a better way to achieve its goals.

Divisibility - is the quality of the innovation which allows it to be accepted in part or to be rejected in part.

Complexity - is the quality of an innovation which necessitates extensive training or retraining of the staff in order to carry out the innovation.

Substitution - is the characteristics of an innovation which allows a simple changing of one behavior or use of a product for another, as opposed to a major change of behavior.

Approach of the Study

In this chapter a presentation was made of a statement of the problem, the study of selected characteristics related to the institutionalization of an educational innovation. The presentation considered the significance of this study by adding to a small and growing body of research. It stated the scope and the delimitations of the study, the hypotheses to be tested, and the definition of terms.

In the second chapter the review of related research is presented, and in the third chapter the research procedures are described. The analysis of data, presentation of findings, and recommendations for further research are presented in the last two chapters.

C H A P T E R II

REVIEW OF RELATED RESEARCH

In this chapter a brief history of the research in the area of diffusion and adoption of innovations as well as a review of specific research related to this study is given. The latter includes research related to the characteristics of innovative administrators and that related to the institutionalization of innovations via Title III E.S.E.A. projects. No comprehensive theory of change in education has been devised which holds up to all research; from current research such a theory is being developed. Ronald Havelock's study, "Planning for Innovation through Dissemination and Utilization of Knowledge" speaks of a need for a more developed theory to replace the fragments borrowed from psychology and sociology.⁵

Historically little research has been done in this area until the last fifteen years. Havelock sees an explosion in the number of articles written since 1954. There was a ten fold increase in the number of published articles from 1954 to 1964.⁶

In the 1930's, Paul Mort and his colleagues at Teachers College, Columbia University, conducted almost 200 studies. His endeavors identified the pattern of diffusion in education, and he identified a 50 year gap between first use of a new practice and its full adoption in 90% of the school systems. His work showed that communities with higher levels of financial

⁵Ronald G. Havelock et al, "Planning for Innovation through Dissemination and Utilization of Knowledge" (Ann Arbor, Michigan, Center for Research on Utilization of Scientific Knowledge, Institute for Social Research, University of Michigan 1969) p. 1-1.

⁶Ibid. P. 1-20.

support had a more rapid rate of diffusion or adoption of innovative practices. He also indicated that faculties with higher levels of education were more likely to adopt innovations. His later work showed a decrease in the 50 year gap in the case of some innovations.⁷

Richard Carlson's 1961 study in a Pennsylvania county concerning the adoption of modern math indicated that economic status, that is cost of instruction per pupil and average professional salary, was not highly correlated with the adoption rate. He conducted a similar study in the state of West Virginia in 1965, and found the same lack of correlation between economic factors and adoption pace. He did find that the ranking of the superintendent on three measures of social network involvement and on three measures of status were related to early or late adoption of the innovation. As measures of status, he used 1) educational level, 2) professionalism (as ranked by his peers), and 3) prestige as measured by salary alone. He found the superintendent to be an influential force in the adoption process.⁸

Carrying on from Carlson's findings that the superintendent is a vital factor in innovating, Everett Rogers writes, "In fact, I would maintain that an understanding of the behavior of innovators is essential to a comprehension of the central processes of social change".⁹ He sees innova-

⁷Paul Mort, "Studies in educational innovation from the Institute of Administrative Research: an overview", in Innovation in Education ed. by Matthew B. Miles (New York, Teachers College Press, 1964) pp. 317-327.

⁸Richard O. Carlson, "School superintendents and adoption of modern math: a social structure profile", in Innovation in Education ed. by Matthew B. Miles (New York, Teachers College Press, 1964) pp. 329-341.

⁹Everett Rogers et al, Change Processes in the Public Schools, Eugene, Oregon University Press 1965 p. 55.

tors as:

- 1) young,
- 2) high socio-economic status, high educational prestige,
- 3) cosmopolite, well traveled and well read to use many information sources,
- 4) opinion leaders,
- 5) perceived as deviants.

Havelock reviewed the three existing models of the change process and endeavored to bring them together in his "linkage" model. The three existing models are: 1) the research, development, and diffusion model, i.e., Department of Agriculture; 2) the social interaction model, such as Carlson's work on social network involvement, and 3) the problem solver model such as the consulting catalyst or change agent team. His model combines elements of all three in a two-way communication network between 1) the resource system -- the knowledge producer and 2) the user system, with a change agent (disseminator) facilitating the communication process. He perceives an inter-system of various agencies involved with each other as change takes place.¹⁰

In this general history of the adoption of change in education, trends were noted from Paul Mort's findings relative to the importance of affluence and the early adoption of innovations to Richard Carlson's findings relative to the importance of the superintendent. Also noted was Everett Rogers' interest in the innovator and his characteristics, as well as Ronald Havelock's "linkage" model in the inter-system of American education.

¹⁰Ronald Havelock. op. cit. p. 11-15.

The review of research related to this study is particularly concerned with two categories of research. The first type is concerned with studies on the characteristics of educational administrators which are associated with the most innovative programs. The second type of research to be considered is the research on the institutionalization of innovation through Title III projects. This type concerns two major studies, those of Anthony J. Polemeni and Norman E. Hearn. This study utilizes the results of Polemeni and Hearn and continues the study of institutionalization of innovations with a different approach.

Specific Research Studies

The first study is Allen Jay Klingenberg's "A Study of Selected Administrative Behaviors among Administrators from Innovative and Non-Innovative School Districts". He used John Childs' work on a 1963 Survey of Five Years of Progress in Michigan Elementary and Secondary Schools which constructed innovative scores for each school. Childs had found non-significant correlations between innovative scores and financial factors as per pupil cost for each school district. Klingenberg selected ten highly innovative school systems and ten school systems very low on the innovative score. He carried out a survey, administering a questionnaire to administrators, superintendents, and principals (three years or more in their present position) and also conducted a follow-up interview with the twenty superintendents. He found significant differences indicating that administrators in innovative systems differed from those in non-innovative systems in the following manner: 1) a greater number of information sources are relied upon for new curriculum practices, 2) more years of school administration experience, 3) more years of total professional

educational experience, 4) a greater involvement of their teaching staffs in curriculum change, and 5) a greater recognition of the worth and dignity of their teaching staffs. Also, he obtained no significant difference on three other hypotheses, those regarding 1) level of education, 2) organizational involvement (as a member or officer), and 3) reading more professional journals.¹¹

Even though Klingenberg compared administrators from ten very innovative systems with those from ten systems low on the innovative scores list, he found that only some of his hypotheses were significantly associated with innovation. He found significant that "a greater number of all information sources are relied upon", but not reading more professional journals or any other one source. He found innovative administrators to have both more years in education and more years as administrators, but they did not have significantly higher level of education or more organizational involvement. His paper is carefully done with a highly selective sample. He indicates that some administrator characteristics are highly associated with adoption of innovation.

Homer Johnson, C. Carnie, and C. Lawrence in "Personality Characteristics of School Superintendents in relation to their Willingness to Accept Innovation in Education" studied 93 Idaho superintendents compared to 71 innovative superintendents (from 12 states) as identified by the System Development Corporation Study. They found that personality is related to innovativeness, and that the more innovative superintendents are more outgoing, more assertive, more venturesome, more imaginative, more experimenting,

¹¹Allen Jay Klingenberg. "A Study of Selected Administrative Behaviors Among Administrators from Innovative and Non-Innovative Public School Districts" (Lansing, Michigan State Department of Public Instruction, 1967) p.99.

and more relaxed. They found that age and years of experience as superintendent were not significantly different between the two groups. They found that the size of the school system is significantly associated with the superintendents's willingness to innovate.¹² Here Johnson et al agree with Klingenberg that the superintendent does have an influential role. They disagree in their findings regarding the significance of years of experience.

In another research study, Homer Johnson and R. Laverne Marcum surveyed fifteen most innovative and fifteen least innovative schools (out of 86) so categorized by the State Departments of Education in Oregon, Washington, Idaho, Nevada, and Utah. They studied individual schools and their principals, not school systems and the superintendents. They rated the extent of innovation and the organizational climate via questionnaires. They found that the most innovative schools 1) spent more per child, 2) had younger staffs, 3) had a staff with less experience in that school, and 4) were larger schools.¹³

These findings are in conflict with Carlson's and Child's regarding financial expenditure. They seem to be in conflict with Klingenberg's conclusions regarding age and experience, however Klingenberg was studying the administrator and Johnson and Marcum were studying the entire staff.

¹²Homer Johnson, G. Carnie, and C. Lawrence "Personality Characteristics of School Superintendents in relation to their Willingness to Accept Innovation in Education" (Logan, Utah State University, 1967) pp. 53-69.

¹³Homer M. Johnson and R. Laverne Marcum "Organizational Climate and the Adoption of Educational Innovations" Paper presented at American Education Research Association 1969 Annual Meeting in Los Angeles, February 1969. p.5.

From the Everett Roger's description of the innovator and the, at times, conflicting findings of these studies, we see the role of the school administrator as influential. Yet the description of the innovative administrator is not definitive. There is also a need to identify those characteristics of the school system which are significantly associated with the adoption of innovation.

Reynoldson (1969) compared innovativeness with educational decision making and with organizational climate. He followed up on Marcum's work and expanded it with an enlarged sample. He found no significant difference between centralized or decentralized educational decision making and innovativeness. There was a significant difference at the .01 level between innovation score and open and closed organizational climate. The more open schools were more innovative.¹⁴

Theodore H. Gehrman, comparing the teachers in five innovative high schools with teachers in five non-innovative high schools, found that the teachers with innovative organizational changes perceived their organization as having a greater total amount of control than their peers without these organizational changes. This finding was statistically significant. Other related hypotheses produced data which was not significant.¹⁵

¹⁴Roger L. Reynoldson, "The Interrelationships Between the Decision Making Process and the Innovativeness of Public Schools" (Logan, Utah, Utah State University, 1969). p. 28.

¹⁵Theodore H. Gehrman, "An Investigation of the Relationship between Participation and Organizational Climate: An Empirical Study of the Perceptions of High School Seniors, Students, Teachers, Principals, and District Superintendents in Innovative versus Non-Innovative Schools (Unpublished D.Ed. Dissertation U. Mass., Amherst, 1971). p.74

Gehrman was interested mainly in the relationship between participation and organizational climate. He theorized that innovative organizations would lead to greater participation and to more favorable educational climates. His point of staff participation and perceived control may be related to the factor of staff participation in proposal development in this study.

Anthony J. Polemeni completed his dissertation at St. John's University on "A Study of Title III Projects (E.S.E.A. of 1965) After the Approved Funding Periods". The Elementary and Secondary Education Act became law in 1965. It was not funded until late in the fall of 1965. The first Title III projects were approved in 1966; there were 1,085 projects approved nationally. In 1967, some, but not all of these 1966 projects received continued funding and some new projects were funded. Polemeni's study is limited to those originally approved projects whose funding was terminated as of December 1967. He surveyed 166 project directors and received 149 useable replies.

He found that 80% terminated immediately, 4% continued for a short time and then terminated, and 16% were still in operation fifteen months later. Comparing terminated with continued projects he found 1) no association regarding type of project, 2) no association with geographic area, 3) no association with size of the population served, 4) no association with the amount of federal dollars expended, and 5) no association with local financial contribution.¹⁶

All Title III projects are approved for a one year period; however there is a practice and expectation of continued funding for three years. Due to the very competitive nature of Title III, and to fluctuations in funding

¹⁶Anthony J. Polemeni, "A Study of Title III Projects (E.S.E.A. of 1965) After the Approved Funding Periods" (Unpublished Ph.D. Dissertation. St. John's University, 1969) pp. 111-113.

by Congress, out of the total of over 2,000 approved Title III in 1967, some 166 were deselected and their funding terminated by December 1967. First, this sample of 166 is a very selective sample. The fact of immediate termination by 80% after federal funding may well be a tribute to the U.S. Office of Education staff who deselected them. The fact of non-institutionalization of the educational innovation after only one year (of an anticipated three years) of federal funding is not unexpected. The 16% institutionalization is rather successful in light of the short funding period. This 16% continuation rate, derived from a select sample, should not be used on other Title III projects.

Polemeni's research shows that on the five variables studied, there was no significant association with the continuation or termination of the innovation. This merely means that these 116 deselected projects were not significantly different when grouped as successfully institutionalized and not institutionalized on these five variables.

Norman E. Hearn, of the U.S. Office of Education, in his 1969 dissertation on Title III projects entitled, "Innovative Educational Programs: A Study of the Influence of Selected Variables upon Their Continuation Following the Termination of Three-year E.S.E.A. Title III Grants" found a very high percentage of projects continuing. Under the sponsorship of the Department of Rural Education, National Education Association, he sent out questionnaires to superintendents of 330 Title III projects approved before July 1, 1966, and which had survived for the full years of federal funding. The covering letter from Lewis R. Tamblin, Executive Secretary of the Department of Rural Education is dated February 1969. The report was completed by September 1969. These programs began their period of federal funding sometime between January 1, 1966 and July 1, 1966. The normal three years of federal funding would not

be completed until perhaps July of 1969. If some were originally planning grants, they could receive three and a half or four years of funding, i.e., until 1970. Utilizing unexpended funds, project life could also be extended beyond the straight three years. Thus the replies were made during the period of federal funding.

In general, Hearn's 330 projects are a selected sample — of high quality — which survived three reviews of the original and of continuation proposals. More importantly, the timing of his questionnaire seems premature. His second question asks "If to be continued beyond Federal project period how will it be funded?" The tense is the future. His findings should be considered in light of these observations.

With his 39 item questionnaire, Hearn received 256 replies or 80.3% of the population of 330 superintendents. Ninety-one percent of these indicated that the program "would" continue after federal funding ceased. A telephone follow-up to non-respondents lowered this to eighty-four percent.¹⁷ This continuation rate should be considered a rate of intended continuation rather than actual.

In interpreting Hearn's findings, it should be noted that the sponsoring agency was the Department of Rural Education. Perhaps, urban centers tended not to reply. Hearn wrote, "With one exception all projects in single district analysis were in school districts with enrollments of less than 13,000 pupils. Returns from large systems including New York and Los Angeles

¹⁷Norman E. Hearn, "Innovative Educational Programs: A Study of the Influence of Selected Variables upon Their Continuation Following the Termination of Three year ESEA Title III Grants". (Unpublished D.Ed. Dissertation, George Washington University, 1969) pp. 197-98.

came in too late to be included in the computer analysis".¹⁸ The mean enrollment of all continued projects was 3,478 -a rather small system.

Hearn's study indicated no significant association between continuation of the Title III project and the a) visibility, b) compatibility, and c) the divisibility of the innovation. Also he found no significant association between project continuation and d) the superintendent's educational level, e) his mobility, and f) his cosmopolitaness. Although more than 43 percent of the superintendents with Title III projects had doctorate degrees, significantly higher than the national average of 21 percent. He did find that generally the more experience the superintendent had, the more likely the project would continue — significant at the .001 level.

He found that continued projects had a higher per pupil expenditure (\$610.00) than discontinued projects (\$592.00) and he found significant at the .01 level that higher family income was associated with project continuation.¹⁹

Concerning participation of various segments of the community in the development of the project he found no significant associations. However his data indicated that among all projects, school board members participated 22% less than principals (68% vs. 90%) but on discontinued projects school board members participated 60% less than principals. Among all projects, parents participated 26% less than the superintendent (68% vs. 94%), but on discontinued projects parents participated 63% less than superintendents. This seems to indicate a trend that more participation in development is related to continuation.

¹⁸Ibid. p. 162.

¹⁹Ibid. pp. 174-185.

In summary, for his total sample, Hearn found significant association between project continuation and a) more experience of the superintendent and b) higher family income.

These two research studies of Title III projects and their continuations offer no common findings and wide differences in percent of projects continued. Each study had a rather selective sample -- Polemeni's of 166 deselected projects, and Hearn's of 330 three year successes. The timing of Hearn's questionnaire raises a point of consideration because it was sent out and returned before the period of federal funding was completed.

In summary, this review of the literature has presented a brief view of the study of diffusion of innovations, in education. It has presented specific studies pertaining to the characteristics of the administrator who successfully adopts innovations. It has pointed out the different results and different samples of these studies. This lack of agreement on characteristics of innovative administrators points to the need for more research in this area in order to determine what (if any) characteristics are significantly associated with the institutionalization of innovations.

The summary of the two research studies on Title III points out the special samples and special conditions of each study. Again, the lack of agreement on the characteristics of innovator, of innovation, and of the school system for the continuation of Title III projects points to the need for more research to identify the characteristics which are significantly related to the successful institutionalization of educational innovations.

The explosion of articles about educational change, noted by Havelock, indicates the growing concern with this field of study. The present study will contribute to the research available in this field.

CHAPTER III

RESEARCH PROCEDURES

The study has selected certain characteristics to determine which are significantly associated with the successful institutionalizations of an educational innovation. The selection of characteristics was based upon the review of the research and discussions with Title III directors in Massachusetts. From the selected characteristics, appropriate hypotheses were developed as presented in Chapter I. Specifically the study considers the relationship between the successful institutionalization of an innovation and each of the following characteristics:

Concerning the innovator, the superintendent:

- (1) cosmopolitaness
- (2) age and experience in education
- (3) level of education
- (4) professional prestige

Concerning the innovation:

- (1) distinctiveness
- (2) relative advantage
- (3) divisibility
- (4) simple substitution
- (5) complexity

Concerning the school system:

- (1) personnel utilization
- (2) communication adequacy
- (3) staff turn over
- (4) staff level of education
- (5) staff experience
- (6) average tax valuation per child
- (7) average instructional cost per pupil

After each hypothesis is tested individually, those characteristics which are significantly associated with successful institutionalization

will be identified. Such characteristics from this study and from other studies will be useful to educational theorists who will build models for the change process in education. Such a theory of change may be developed from much descriptive research which will cover the broad spectrum of innovations in education.

The Sample

This study investigated all the Title III, Elementary and Secondary Education Act, proposals submitted in 1966 from Massachusetts. Title III proposals were selected as a readily available sample of attempts at innovation since one criteria for Title III proposals was innovativeness. Proposals from Massachusetts were selected since they provided a large sample (138) which was geographically proximate to the author, and the results could be generalized to Massachusetts. The 1966 proposals were selected since their federal funding period would be completed at the time of the sending of the questionnaires. The Office of Education provided a listing of proposal titles, the submitting local educational agencies, and the approval status.

The 138 proposals came from 82 different communities. All proposals, whether approved or rejected, were included in the sample. All members of the sample were polled in May 1971. After forty days, a second letter and questionnaire was sent to those who had not responded.

Proposals approved in 1966 could be funded for 1, 2, 3, or 4 years (with one year of planning). The questionnaire in May 1971 came at the termination of all federal funding and at a time when a local commitment in the 1971 calendar year budget was definite.

Development of Survey Instrument

From the review of the research and from consultation with Massachusetts Title III project directors, characteristics were selected which seemed to be associated with institutionalization of educational change and the hypotheses cited above were developed. Based upon these hypotheses, a survey questionnaire was composed to gather information on each factor.

A preliminary form of the questionnaire was sent as a trial to fourteen Connecticut communities with approved 1966 Title III projects. Eight were returned. Based upon problems the responders noted by qualifying a categorical answer, the wording of items in the questionnaire was revised. The questionnaire and study was discussed with some Title III project directors in Massachusetts. There was further consultation with an educational consulting agency and some members of the university faculty before it was finalized. Through this procedure, the validity of the questionnaire was developed so that the items do measure the selected characteristics and response error is held to a minimum. Validity of the questionnaire data was sought through a careful construction and continued reconstruction of the questionnaire, with the assistance of others who were concerned and knowledgeable about Title III, about innovation, and about this research study.

The Title III Office in the Massachusetts State Department of Education supplied a covering letter to superintendents encouraging them to respond to the questionnaire. This letter from Robert Watson, Director of the Bureau of Curriculum Innovation, is Appendix A; and the questionnaire is Appendix B. The author's covering letters are Appendix C and D. Rate of return on a questionnaire survey is a research problem. As a means of securing a greater return, the letter from Robert Watson of the

State Department of Education was solicited, received, and used. Its use, while increasing the response, may also enter a bias in the responses, due to the State Department interest in the study. The author's covering letter indicated that "replies will be held in confidence"; however, the possibility of some bias is noted. Since all of the Title III projects of concern to this study were completed, and since further federal funding for these specific projects was most unlikely, it is not unreasonable to believe that Watson's letter did not bias these returns in any meaningful way.

Other Data

The data concerning some factors could best be collected from the Bureau of Research of the State Department of Education. This source of data, computer print-outs of official reports, insured accuracy and objectivity as well as standardization of data. The data was obtained by visiting the State Department Office in Woburn and recording the data. The data included:

- A) the profile of the professional staff such as:
 - 1) average years in public schools
 - 2) average level of education
 - 3) percent of new staff (i.e. turnover), and

- B) financial status of the school system as measured by:
 - 1) equalized assessed valuation per school attending child
 - 2) per pupil expenditure on instructional costs

The correspondence between the stated hypotheses and the questionnaire items or data from the Research Bureau of the State Department of Education is presented as follows:

Concerning proposal continuation

Hypothesis 1	Questionnaire item 1 & 2
2	1 & 3
Concerning the superintendent - the innovator	
3	11
4	13
5	5, 8, 7
6	6, 12, 4
7	9
8	10
Concerning the innovation	
9	16
10	17
11	18
12	19
13	14 & 15
Concerning the school system	
14	20
15	21
16	Research Bureau
17	Research Bureau
18	Research Bureau
19	Research Bureau
20	Research Bureau

The Interview

It was planned that a limited sample of respondents should be interviewed to check on the reliability of the questionnaire data. An interview structure was developed to be used so that the questionnaire data could be verified. After analysis of the questionnaire data, the selection of interviewees would be made randomly. The interviews were to be face to face if possible or via the phone if necessary. The interview sample was to be relatively small and was to be selected randomly. The interview would relate to the questionnaire data, but not supply any new information.

However, given a definite period of time within which to complete the study, an alternative procedure (to the above) seemed more fruitful. Rather than merely verify the questionnaire data, the opportunity to use the interview to gain more data on specific pairs of proposals was judged appropriate. By this change, the interview became a non-random selection, and it did not serve as a reliability check. However, the alternative was judged as appropriate and more fruitful by the researcher.

As the questionnaire data was analyzed, the incidence of both successful and unsuccessful institutionalization of proposals within the same community was noted. The decision was made to select pairs of proposals from the same community - one of which was institutionalized and one not. An interview would be held with one individual concerning a pair of projects in each of five communities. The planned interview structure was slightly revised to suit this special situation. Five interviews were held with five different individuals, each concerning a pair of proposals, one institutionalized successfully and one not institutionalized.

In summary, the data was collected from various sources as indicated on the following table.

Table 1

Sources of Data and Related Hypotheses

	State Dept. Question Selected	
	U.S.O.E.	of Educ. to Supt. Interviews
1. List of all 1966 Title III applications Hypotheses 1 & 2	X	
2. List of approved projects (1966) Hypotheses 1 & 2	X	
3. Latest available figures for each community in regard:		
a. Instructional cost per pupil Hypothesis 20		X
b. Equalized assessed valuation per school attending child Hypothesis 19		X
4. A professional profile of each community includ- ing:		
a. percent of new staff (i.e. turnover) Hypothesis 16		X
b. median years in public education Hypothesis 17		X
c. median level of education Hypothesis 18		X
5. Social structure of school system Hypotheses 14 & 15		X X
6. Characteristics of innovative activity Hypotheses 9,10,11,12,13		X X
7. Characteristics of super- intendent Hypotheses 3,4,5,6,7,8		X X
8. Institutionalization of project activities with- out federal funds Hypotheses 1 & 2		X X

Procedures for Analysis of Data

The data from the questionnaire and from the U. S. Office of Education regarding approval and institutionalization of the project in hypotheses 1 & 2 are analyzed as follows. A criterion was established based upon data in Paul Leary's dissertation. He noted that Ryan and Gross found "90% of farmers had heard of the new seed but only 20% had tried it."²⁰ On these first hypotheses, it was necessary to establish a reasonable criterion. The use of the early adoption rate of 20% (with 90% awareness) was judged as reasonable with these Title III proposals. Since there was 100% awareness, the rate of adoption, or of indicated institutionalization, of 22%, or 78% rejection was established. The criterion was thus arbitrarily established. The study equates institutionalization with early adoption for statistical purposes, but it makes no attempt to determine the time factors involved in awareness before adoption, or whether a community might be a late adopter of an older innovation.

The data from the questionnaire and from the State Department of Education regarding hypotheses 3 through 20 were analyzed by the chi square test. On each factor the data is classified in a two by two table. The chi square procedure tests that each column or row has the same proportion of proposals in each classification. This tests for the independence of the characteristics. Dependence, via a significant chi square value, indicates significant association between the successful institutionalization and that characteristic

²⁰Paul A. Leary, "An Analysis of Effectiveness of Selected Short Term Summer Training Programs as Sources of Information about Educational Innovations." (unpublished D.Ed. Dissertation, U. Mass., Amherst, 1969) p. 11.

The level of significance to indicate dependence will be the .05 level. In each two by two table, there will be one degree of freedom and a chi square value of 3.84 or more is needed for significance.

In this third chapter the selected characteristics, to be tested as being significantly associated with the successful institutionalization of the innovation, are listed. The sample of proposals and the construction and testing of the questionnaire were described. The interview procedure was explained. Also indicated were the sources of data and the method of analyzing the data.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

In this chapter an analysis is presented of the data collected by the survey instrument, from the U. S. Office of Education, from the Massachusetts State Department of Education, and from the selected interviews concerning the differences between the successful and unsuccessful institutionalization of educational change. The chapter is divided into four parts. First, the data is analyzed against the hypotheses stated for this study. Second, the tendencies in the survey data are considered. Third, the interviews are summarized. And fourth, an interpretation of the data is made in terms of the limitations of this study and the past research findings.

Analysis of Data from the Questionnaire

The first hypothesis predicted that most Title III proposals which were not approved would not be institutionalized.

H₁ Most (78%) of the Title III applications, which did not receive federal funds, were not carried out by any other source of funding.

The data indicated that out of the 46 rejected proposals, 19 proposals or 41% were institutionalized. Seven were carried out with regularly budgeted funds, five with additionally budgeted funds, one with other federal funds, one with private funds, and five with various combinations. Only 59% of the rejected proposals were not carried out or institutionalized. The 41% adoption rate exceeds the 22% rate of early adoption after awareness noted in Leary's work. Consequently,

this hypothesis is rejected.

The second hypothesis predicted that most of the approved Title III projects would cease operation with the termination of federal funds.

H₂ Most (78%) of the Title III applications, which were approved ceased all activity at the termination of federal funding.

The data indicates that of the 55 approved proposals, 40 or 72% were institutionalized after federal funds were withdrawn. This early adoption rate greatly exceeds the expected 22%. Seventeen were continued at full level and twenty-three at a reduced level. Of the 55 approved projects, eleven were approved for one year only, two for two years, thirty-six for three years, and five for four years, (one response was incomplete on the item (2a). With only 28% of these approved Title III proposals ceasing after the termination of federal funds, this hypothesis is rejected.

The Superintendent as the Innovator

The third hypothesis predicts that there is a significant association between successful institutionalization of educational change and the cosmopolitanism of the superintendent as measured by his attending more out-of-state educational meetings.

H₃ The Superintendent, who is more cosmopolite as indicated by attending out-of-state educational conferences, is more successful in institutionalizing educational change.

Table 2 indicates that the average superintendent responding attended four such conferences. Of the fifty-nine institutionalized projects, 26 superintendents or 46% attended four or more. Of the thirty-nine non-institutionalized projects, nineteen superintendents or 49% attended four or more conferences. The chi square value was only

.0002, and a chi square value of 3.84 is needed with one degree of freedom for an alpha .05 level of significance. Thus, the null hypothesis is accepted. The data does not support the predication of a significant association with this variable.

TABLE 2

Distribution of Proposals on the Basis of Number of Educational Meetings Attended by the Superintendent.

Educational Meetings Attended	Institutionalized Proposals	Non-Institutionalized Proposals
Above average 47	<u>26</u>	<u>19</u>
Below average 3-	<u>30</u>	<u>20</u>

The fourth hypothesis predicts that there is a significant association between successful institutionalization of educational change and the cosmopolitanism of the superintendent as measured by his reading more professional journals.

H₄ The Superintendent, who is more cosmopolite as indicated by reading more professional journals, is more successful in institutionalizing educational change.

Table 3 indicates that the average superintendent reads six professional journals. Here 35% and 43% of the successful and unsuccessful superintendents respectively read seven or more educational journals. The chi square value was calculated to be .3. A value of 3.84 is needed for significant association. Thus, the null hypothesis is accepted. The data does not support the prediction in the hypothesis.

TABLE 3

Distribution of Proposals on the Basis of Number of Educational Journals Read by the Superintendent.

Educational Journals Read	Institutionalized Proposals	Non-Institutionalized Proposals
Above average 7 $\frac{1}{2}$	<u>20</u>	<u>17</u>
Below average 6-	<u>36</u>	<u>22</u>

The fifth hypothesis predicts that the more successful superintendent in institutionalizing educational change is 1.) younger, 2.) less experienced in education, and 3.) less experienced as an administrator.

H₅ The Superintendent, who a.) is younger, b.) has fewer years of experience in education, and c.) has fewer years of experience as an administrator than his peers, is more successful in institutionalizing educational change.

Table 4 indicates that the average age is 45, and 50% of superintendents in both groups fall above and below this average. The chi square value is .11 and a value of 3.84 is needed in order to accept the hypothesis. Thus the null hypothesis is accepted and the data indicates no significant association between age of the superintendent and successful institutionalization of educational change.

TABLE 4

Distribution of Proposals on the Basis of Age of the Superintendent.

Superintendent's Age	Institutionalized Proposals	Non-Institutionalized Proposals
Above average 46 $\frac{1}{2}$	<u>27</u>	<u>20</u>
Below average 45 $\frac{1}{2}$	<u>27</u>	<u>19</u>

Table 5 indicates that the average superintendent had twenty years of experience as an educator. Both groups of projects have slightly more superintendents below this mean. The chi square value calculated is .05, not adequate to indicate a significant association with the fewer years of experience as an educator.

TABLE 5

Distribution of Proposals on the Basis of Number of Years Which the Superintendent Has Served as an Educator.

Years as an Educator	Institutionalized Proposals	Non-Institutionalized Proposals
Above average 21 $\frac{1}{2}$	<u>26</u>	<u>17</u>
Below average 20-	<u>28</u>	<u>22</u>

Table 6 gives the data for years as an administrator. The mean number of years is 13, and both groups of projects have more administrators with less than that average. The chi square value calculated is .04, less than the 3.84 value needed at the .05 level to indicate significant association. Thus, the null hypothesis for all parts of this fifth hypothesis is accepted.

TABLE 6

Distribution of Proposals on the Basis of Number of Years Which the Superintendent Has Served as an Administrator.

Years as an Administrator	Institutionalized Proposals	Non-Institutionalized Proposals
Above Average 14 $\frac{1}{2}$	<u>22</u>	<u>18</u>
Below Average 13-	<u>32</u>	<u>22</u>

The sixth hypothesis predicts that the superintendent with less time in his present position is more effective in educational change.

- H₆ The Superintendent, who has fewer years in his present position, is more successful in institutionalizing educational change.

Table 7 indicates that the mean number of years in the present position is five, and in both groups of projects, more superintendents have less than this mean of five years. The chi square value calculated is .0002, less than the required 3.84. Thus, the null hypothesis is accepted and the data does not support the significant association between fewer years in present position, and the institutionalization of educational change.

TABLE 7

Distribution of Proposals on the Basis of Superintendent's Number of Years in His Present Position.

Years in Present Position	Institutionalized Proposals	Non-Institutionalized Proposals
Above average 6+	<u>20</u>	<u>14</u>
Below average 5-	<u>34</u>	<u>26</u>

The seventh hypothesis predicts that better educated superintendents will be more effective with educational change.

- H₇ The Superintendent, who has a higher level of education, is more successful in institutionalizing educational change.

Table 8 indicates that of the superintendents in this study the mean level of education was the doctor's degree. In both groups of projects, more than half of the superintendents had doctor degrees.

The chi square value computed was .04, less than the 3.84 needed at the .05 level for significance. Thus, the null hypothesis is accepted; the data does not support the significant association in regard to the educational level of innovators.

TABLE 8

Distribution of Proposals on the Basis of Educational Level of the Superintendent

Educational Level	Institutionalized Proposals	Non-Institutionalized Proposals
Doctorate	<u>32</u>	<u>22</u>
Less than doctorate	<u>22</u>	<u>18</u>

Hypothesis 8 predicts that the higher paid, i.e., superintendent with greater prestige will be more successful in institutionalizing educational change.

H₈ The Superintendent, who has greater prestige as indicated by a higher salary, is more successful in institutionalizing educational change.

The data in Table 9 indicated that \$25,000.00 was the median salary for the group. The non-institutionalized projects had slightly more superintendents receiving \$25,000.00 or more while the successful group had more below \$25,000.00. However, the chi square value was .09, not the 3.84 required for significance. Thus, the null hypothesis is accepted; there is not a significant association between the superintendent's prestige as measured by his salary and the successful institutionalization of educational change.

TABLE 9

Distribution of Proposals on the Basis
of Salary Level of Superintendent.

Salary level	Institutionalized Proposals	Non-Institutionalized Proposals
Above \$25,000.00	<u>27</u>	<u>21</u>
Less than \$25,000.00	<u>30</u>	<u>19</u>

Characteristics of the Innovation

The next few hypothesis refer to characteristics of the innovation. Hypothesis 9 predicts that the innovation which is a simple substitution, is institutionalized more successfully.

H₉ The innovation which involved a simple substitution in teaching behavior rather than a new complex teaching skill, is more successful in being institutionalized.

The data in Table 10 indicates that only fifteen innovations out of the sixty-five responses on this item were seen by their superintendents as being simple substitutions. Fifty innovations were seen as involving complex new skills. The computed chi square value is .006. Thus, the null hypothesis was accepted; there is no significant association between simple substitutions and successful institutionalization.

TABLE 10

Distribution of Proposals on the Basis of the
Innovation Being a Simple Substitution.

Simple Substitution	Institutionalized Proposals	Non-Institutionalized Proposals
Yes	<u>11</u>	<u>4</u>
No	<u>34</u>	<u>16</u>

The divisibility of an innovation makes it more likely to be institutionalized as predicted in hypothesis 10.

H₁₀ The innovation which could be accepted or rejected in part (rather than totally accepted or totally rejected) is more successful in being institutionalized.

The data in Table 11 indicates that most innovations in both groups could be adopted or rejected in part, i.e., had divisibility. The computed chi square value is only .1. Thus, the null hypothesis is accepted; there is no significant association between divisibility and successful institutionalization of the educational innovation.

TABLE 11
Distribution of Proposals on the Basis of
Divisibility of the Innovation

Divisibility	Institutionalized Proposals	Non-Institutionalized Proposals
Accept in part	<u>37</u>	<u>17</u>
Accept totally	<u>7</u>	<u>5</u>

Hypothesis 11 predicts that the distinctive innovation is less successfully institutionalized.

H₁₁ The innovation which is distinctive so that an observer would easily recognize it as something different, is less successful in being institutionalized.

The data in Table 12 indicates that most respondents saw their innovation as distinctive. However, it was a very large percentage from both groups (87% and 89%), so that the chi square value was calculated to be .1. Thus, the null hypothesis is accepted; there is no significant association between distinctiveness and successful institutionalization.

TABLE 12

Distribution of Proposals on the Basis of
Distinctiveness of the Innovation

Distinctiveness	Institutionalized Proposals	Non-Institutionalized Proposals
Clearly visible	<u>43</u>	<u>22</u>
Not observable	<u>4</u>	<u>2</u>

Hypothesis 12 predicts that the complexity of the innovation renders it less successfully institutionalized, i.e., an innovation which requires extensive retraining of the teaching staff is not adopted as easily as one which does not require such training.

H₁₂ The innovation which requires extensive retraining of the teaching staff is less successful in being institutionalized.

The data in Table 13 indicates that about half the respondents saw their innovation as requiring such retraining; these were divided almost evenly between the two groups. The chi square value was calculated to be .02. Thus, the null hypothesis is accepted; the study does not indicate a significant association between complexity and successful institutionalization.

TABLE 13

Distribution of Proposals on the Basis of
Complexity of the Innovation

Complexity	Institutionalized Proposals	Non-Institutionalized Proposals
Extensive retraining	<u>26</u>	<u>11</u>
Little training	<u>25</u>	<u>13</u>

Hypothesis 13 predicts that evaluation design enhances institutionalization, in so far as 1.) evaluation is to be by an outside consultant, and 2.) evaluation which indicated that the project activity was a more efficient way of reaching the project goals or that the innovation has a relative advantage.

H₁₃ The innovation, whose evaluation was both by an outside consultant and an objective indication that the project activity was a more efficient way of reaching the project goals, is more successful in being institutionalized.

Table 14 indicates that most proposals used internal evaluation techniques. The hypothesis predicts that external evaluators would be significantly associated with successful institutionalization. The computed chi square value is .06, not the 3.84 required to indicate significant association. Thus, the null hypothesis is accepted; the data does not indicate significant association.

TABLE 14

Distribution of Proposals on the Basis of Use of an External or Internal Evaluator in Evaluation Design.

Evaluator in Design	Institutionalized Proposals	Non-Institutionalized Proposals
External	<u>18</u>	<u>6</u>
Internal	<u>29</u>	<u>14</u>

Table 15 presents the data concerning evaluation results. Twenty-nine projects indicated that their evaluation results indicated a better way to reach goals; twenty-six indicated that evaluation results were inconclusive in showing a relative advantage. The chi square value calculated was .8, not the 3.84 required for significance at the alpha .05 level with one degree of freedom. Thus, the null hypothesis is accepted.

There is no significant association between relative advantage and the successful institutionalization of educational change.

TABLE 15

Distribution of Proposals on the Basis of
Results of Evaluation of Proposal.

Relative Advantage	Institutionalized Proposals	Non-Institutionalized Proposals
Superior or positive	<u>23</u>	<u>6</u>
Same or neutral	<u>17</u>	<u>2</u>

Characteristics of the School System

Hypothesis 14 predicts that institutionalization is more successful when more categories of personnel are involved in the development of the proposal.

H₁₄ The school system where the innovation was developed with the participation of more categories of personnel is more successful in institutionalizing educational change.

The data in Table 16 indicates that on 57% of the institutionalized projects five or six categories of personnel were involved in the development, whereas only 19% of the non-institutionalized projects had five or six categories participating. The calculated chi square value is 11.2, more than the 3.84 needed for significance at the .05 level, and more than the 6.63 needed for significance at the .01 level with one degree of freedom. Thus, the null hypothesis is rejected; the data indicates that there is a significant association between the number of categories of personnel involved in the development of the proposals and the successful institutionalization of educational change.

TABLE 16

Distribution of Proposals on the Basis of Number
of Classes of Personnel Involved in Planning.

Personnel Utilization	Institutionalized Proposals	Non-Institutionalized Proposals
High, 5 or 6 classes	<u>32</u>	<u>7</u>
Low, 4 or fewer classes	<u>24</u>	<u>29</u>

Hypothesis 15 predicts that the successful institutionalization of an educational change is related to the communication adequacy of the school system, as measured by the existence of a regular intra-staff publication.

H₁₅ The school system which has a regular publication for intra-staff communication is more successful in institutionalizing educational change.

The data in Table 17 indicates that only 40% of all responders to this item had a regular periodic intra-staff bulletin. Most projects in both groups did not have such a publication. The chi square calculated was .1, not the 3.84 required for significance at the .05 level with one degree of freedom. Thus, the null hypothesis is accepted; the data does not indicate a significant association between communication adequacy and the successful institutionalization of educational change.

TABLE 17

Distribution of Proposals on the Basis of
Methods of Informing Staff.

Communication Adequacy	Institutionalized Proposals	Non-Institutionalized Proposals
Regular publication	<u>22</u>	<u>13</u>
Special announcements only	<u>29</u>	<u>22</u>

Hypothesis 16 predicts that the school department with a high percent of new staff will be more likely to adopt an innovation.

H₁₆ The school system with a high percent of new staff is more successful in institutionalizing educational change.

The data concerning this item was obtained from the Research and Development Office of the State Department of Education. The data in Table 18 indicates that the mean for the responding communities was 20% of new staff compared with total staff. Sixty-three percent of these communities had a higher than 20% turn-over of staff. The chi square value was .8, not the 3.84 required for significance at the .05 level with one degree of freedom. Thus, the null hypothesis is accepted; the data does not indicate a significant association between percent of new staff and success in institutionalizing an educational change.

TABLE 18

Distribution of Proposals on the Basis of
Percent of New Staff

Percent of Turn-over	Institutionalized Proposals	Non-Institutionalized Proposals
High 20%+	<u>35</u>	<u>26</u>
Low 19%-	<u>24</u>	<u>11</u>

Hypothesis 17 predicts that a younger professional staff is more likely to adopt an innovation.

H₁₇ The school system with a professional staff which has less than the average of years in public schools is more successful in institutionalizing educational change.

The data in Table 19 indicates that the mean of years in public school for staff in each community was 10 years. The chi square calculated gave a value of .2, not the 3.84 required for significance. Thus, the

null hypothesis is accepted; the data does not indicate any significance.

TABLE 19

Distribution of Proposals on the Basis of Staff
Mean Number of Years in Public Schools.

Average years in Public Schools	Institutionalized Proposals	Non-Institutionalized Proposals
High (10 years f)	<u>33</u>	<u>19</u>
Low (9 years -)	<u>25</u>	<u>19</u>

Hypothesis 18 predicts that a better educated professional staff is more likely to adopt an innovation.

H₁₈ The school system with a professional staff which has higher than the average in mean level of education is more successful in institutionalizing educational change.

Table 20 indicates that the mean level of education was 10.0 from the State Department data, this level is a bachelor's degree plus thirty hours. Although the mean of the professional profile for all communities was 10, most communities (68%) had less than that level. The chi square calculated was .0008, less than the 3.84 required for significance at the .05 level with one degree of freedom. Thus, the null hypothesis is accepted; the data does not indicate a significant association regarding the educational level of the professional staff.

TABLE 20

Distribution of Proposals on the Basis of Staff
Mean Level of Education.

Staff Level of Education	Institutionalized Proposals	Non-Institutionalized Proposals
High - (Bachelor's plus 30 credits f)	<u>18</u>	<u>12</u>
Low -	<u>41</u>	<u>25</u>

Hypothesis 19 predicts that the more affluent school district, as measured by the equalized assessed valuation per child, is more likely to adopt an innovation.

H₁₉ The school system which has higher than the average tax valuation per child is more successful in institutionalizing educational change.

The records at the State Department of Education provided the equalized assessed valuation per school attending child for each community. Table 21 indicates that the mean for these communities was \$25,011.00. Most communities fell below that mean in both groups of proposals. The chi square value calculated was .009, not the 3.84 required for significance at the .05 level for one degree of freedom. Thus, the null hypothesis is accepted; the data does not indicate a significant association between the affluence of a community and institutionalization of the educational innovation.

TABLE 21

Distribution of Proposals on the Basis of Equalized Assessed Valuation per School Attending Child.

Valuation per child	Institutionalized Proposals	Non-Institutionalized Proposals
High (\$25,000 +)	<u>17</u>	<u>11</u>
Low (\$25,000 -)	<u>36</u>	<u>27</u>

Hypothesis 20 predicts that the more affluent community, as measured by the average instructional cost per pupil, is more likely to adopt an innovation.

H₂₀ The school system which has higher than the average instructional cost per pupil is more successful in institutionalizing educational change.

The data in Table 22 indicates that the average instructional cost per pupil was \$530.00, and most communities in both groups of proposals were below that mean. The chi square value calculated was .8, not the 3.84 required for significance at the .05 level with one degree of freedom. Thus, the null hypothesis is accepted; the data does not indicate a significant association between per pupil cost and the successful institutionalization of educational change.

TABLE 22

Distribution of Proposals on the Basis of
Instructional Costs per Pupil.

Per pupil costs (instruction only)	Institutionalized Proposals	Non-Institutionalized Proposals
High \$530.00 /	<u>26</u>	<u>13</u>
Low \$529.00 -	<u>33</u>	<u>27</u>

In summary, this formal analysis of the data rejected the first two hypotheses, that most rejected proposals would not be carried out, and that most approved proposals would cease with the termination of federal funding. The only factor which was found significantly associated with the institutionalization of an educational change was the number of categories of personnel participating in the development of the original proposal; the more types of people participating in original development led to a greater chance of institutionalization.

Trends in the Data

In the second part of this chapter consideration is given to the tendencies in the data, although not significant. The fact that 41% of the rejected proposals were institutionalized, along with 72% of the approved proposals, is testimony to the success of Title III in stimulating innovation and in institutionalizing educational change. Of all proposals, 58% were institutionalized by the local school departments, according to the questionnaire response. Institutionalization was determined by the questionnaire reply from the superintendent without further verification and without attempting to define the extent of institutionalization. This study does not attempt a comparison of innovation outside of Title III proposals.

This study is based upon the 101 usable questionnaires returned by sixty-nine communities. This was from a survey of 100% of the population (82 communities) submitting 138 Title III proposals in 1966. (Seven questionnaires were returned with no data since no one was available to complete them.) As such, it is a selected sample of all communities in the state, and in most factors, these 69 communities, school systems, and superintendents are more alike than different. Fifty-seven percent of the Superintendents had a doctor's degree—compared to 43% in Hearn's study and the 21% national average, which he quoted. The average superintendent's salary was \$25,000.00, this is above the \$23,108.00 national average superintendent salary given by the N.E.A. for the 1970-71 school year (for communities with 3,000 to 24,999 pupils enrolled, which covers most communities in Massachusetts).²¹ Thus, the educational level and salary of superintendents applying for Title III projects

²¹ National Education Association, Research Division N.E.A. Research Bulletin. Vol. 49 No. 3 October 1971 (Washington, D.C. N.E.A., 1971). p.80

seems well above the average, even though there was no significant difference between the two groups of proposals. Fifty-eight percent of the superintendents were new to their position since the proposal was submitted in 1966; and fifty-four percent came to this superintendency from outside the school system.

The data indicates some inconsistencies concerning the superintendents' perception of the innovation. About 91% saw their innovation as distinctive, and about 77% saw it as needing complex new skills by teachers. And yet 82% of the superintendents indicated that the innovation was divisible, i.e., could be accepted or rejected in part. It seems that partial adoption of the innovation might render it less distinctive. Also, only about 50% of the superintendents indicated that the innovation required considerable retraining of staff although 77% indicated that it was not a simple substitution. These inconsistencies seem a product of the perceived data from the questionnaire.

Comparison of the average staff professional profile with state means shows very little difference. Staff years in education was 10.15 and 10.0 (average proposal staff and state means respectively); staff level of education was 9.7 and 9.9, percent of new staff was 20.6 and 19.9. Comparing the affluence of the school systems with the state average, we find some differences. The state average for instructional cost per pupil was \$500.87 compared to \$530.00 for the Title III proposal communities. The equalized assessed valuation per child was \$21,600.00 for the state, but \$25,011.00 for the Title III proposal communities. Thus, the staff professional profile seems very similar to the state average, but the Title III proposal communities seem more affluent compared to the state average.

Analysis of Data from Interviews

The original interview procedure was changed in order to carry out an alternative which seemed more fruitful. Analysis of the questionnaire data indicated a pattern of both successful and unsuccessful institutionalization of innovations within one community. It was judged appropriate to vary the original plan in order to gain more data concerning characteristics associated with the successful or unsuccessful institutionalization of an educational innovation.

Five pairs of projects were selected for interviews. Each pair came from the same community, and thus many of the factors studied, concerning the superintendent and the school system would be the same for both projects. Each pair included one institutionalized and one non-institutionalized project. Three of the pairs compared two approved proposals, one of which was continued after federal funding and the other terminated. The other two pairs contrasted an approved proposal which terminated after federal funds and a rejected proposal which was implemented and institutionalized by the school system without federal funds. Five interviews were held with five different individuals, each concerning a pair of proposals.

The following interview protocol was established - a revision of the planned protocol in order to gain more information on the differences between the two proposals, one institutionalized and one not institutionalized.

Non-Structured Interview Format

A. Rapport facilitating items

- 1) How was the staff involved with Title III proposal preparation?
- 2) How many staff people were involved?
- 3) Who participated in writing?

B. Project activities

- 1) What was the nature of the activities of each project?
- 2) What personnel made up the Title III project staff?
- 3) What role did the project director play?
- 4) How were two proposals alike and how different?
- 5) How did the project activities relate to the regular school program?

C. Decision to institutionalize or to terminate.

- 1) What were the reasons for institutionalizing or terminating each proposal?
- 2) What staff were involved in the final decision?

From these interviews the following differences seemed common. First, was the way needs were being met. Institutionalized projects meet the needs of the children as a part of the school day. Discontinued projects were after-school, extra-curricular, or summer activities. It seems the discontinued projects, when in operation, had very little impact on the school program, so their loss meant little.

A second commonality in many of these ten projects was the role of the project director. In four cases, the project director was mentioned as a force in achieving the continuation of the activity; in three cases the project director changed positions and the project activity ceased without him.

A third factor, common in some cases, was the role of the staff in the project. In institutionalized projects, many administrators and highly trained staff participated in project activities. In discontinued projects, one staff of teachers only, and one staff of non-certified personnel carried out the project activities. It seems that in order to effect and institutionalize change, the gate-keepers, the administrators, were involved in institutionalized proposals. The different level of staff participating in the project may play a role in institutionalizing change.

The interviews concerned ten projects. Three of these were regional endeavors, with the joint participation of several communities. One of these was institutionalized in several separate communities as local activities; discussions of continuing this as a regional activity had been fruitless. Two of these regional projects ceased with the end of federal funds. A re-examination of all questionnaires indicated that nine regional proposals were not institutionalized (whether approved or rejected) and six regional proposals were institutionalized. However, only one of these six continued to operate on a regional basis; in the others the project ideas and activities were adopted by the communities individually. Thus, of fifteen 1966 regional proposals, only one has been institutionalized on a regional basis.

Interpretation of Data

The fourth part of this chapter interprets the data in relation to the limitations of this study and in relation to the past research.

The study is a questionnaire survey of 101 Title III proposals. It provides demographic and descriptive data regarding the proposal, the project activities, the innovator, and the school system. The proposals were submitted by only 82 communities out of the 351 in the state. Sixty-nine communities returned questionnaires. These 69 communities, which planned innovation through a Title III project, seem more similar to each other in many ways than they might be in comparison with communities which did not submit Title III proposals.

A questionnaire study is less objective than other methods, since the respondent replies according to his perceptions of himself, his proposal, and his system. The careful refining of the questionnaire, the trial run, and the assistance of others helped to make this questionnaire a useful instrument.

Hearn found that 91% of his three-year successful Title III proposals "would" continue after federal funding ceased. Polemeni found only 16% of his 116 deselected projects continued after funding. This study found that 72% of approved proposals were institutionalized and 41% of rejected proposals were also institutionalized. With the selected samples in the other two studies, the results of this study seems a more accurate indication of institutionalization of approved projects. Rather remarkable is the 41% of rejected proposals which were institutionalized. Of all proposals submitted, 58% were institutionalized. This finding clearly supports the value of the Title III legislation in encouraging and enabling change in education.

Concerning the superintendent as innovator, the study found no significant differences between the superintendents whose proposals were or were not institutionalized. However, as a total group, they differ from the average of all superintendents in that 57% had a doctor's degree compared to a national average of 21% quoted by Hearn. This indicates that these superintendents as innovators have a higher level of education than those who did not submit Title III proposals. They also had more prestige via a higher salary than the average superintendent.

Klingenberg and Marcum found differences between administrators in school systems which were very high or very low in innovation. Klingenberg found innovative administrators to have more experience as an administrator and more experience in education, compared to administrators low in innovation. Marcum found innovative staffs to be younger and have less experience in that school, compared to non-innovative staffs. Hearn found innovative superintendents to have more experience. Johnson and Carnie and Lawrence found no significant difference in age and experience in education between innovative

and non-innovative administrators. Hearn, as this study, found no significant difference in superintendents regarding their educational level, their cosmopolitaness in using various sources of information, or in their being new to this position. All administrators in this sample are perhaps similar because they are all attempting innovation with varying degrees of success. The lack of differences is probably because they are all innovators, rather than innovators compared to non-innovators.

The way in which superintendents perceived their innovations did not differ significantly between the successful and unsuccessful institutionalized proposals. Seventy-seven percent see their innovation as a complex teaching skill; eighty-two percent indicate that their innovation could be accepted in part; and ninety-one percent saw their innovation as distinctive and visible. On requiring extensive retraining of staff only fifty percent indicated such a need. Thus, in general, superintendents saw their innovations as new teaching skills and as very distinctive, and yet as divisible and only 50% as needing to re-train the staff. Hearn also found non significant difference between his continued or discontinued projects regarding visibility, divisibility, and compatibility of the innovation.

The successful and unsuccessful Title III proposals differed significantly in only one area, that of personnel utilization. Fifty-seven percent of institutionalized proposals used five or six categories of people in preparing the proposal; only nineteen percent of non-institutionalized proposals involved five or six categories of personnel. The chi square analysis indicates a significant association at the .01 level. This reinforces Gehrman's concept of greater participation in innovative schools. Hearn's data, while not significant, tends to indicate that there was a relationship between

continuation of the project and greater participation in the development of the project. Thus Hearn's data tends to support the significant association noted in this study.

The staff factors did not indicate any difference between the successfully and unsuccessfully institutionalized proposals. Indeed, they were very close to the state means. Staff age, level of education, and newness to the system were not different either between groups, or from the state means. The two means of community affluence and educational effort did not differ between the two groups of proposals, however both measures are considerable above the state means. This seems to support Paul Mort's findings that the affluent communities are more likely to adopt innovations earlier. Hearn found a significant association between higher family income and project continuation, while Klingenberg found no significant difference between his innovative and non-innovative administrators and community affluence.

In summarizing this interpretation of the data, Hearn's study notes a tendency which supports the finding in this study that greater participation in planning the proposal as reported on the questionnaire is significantly associated with successful institutionalization of the innovation. This study and Hearn's study support the success and value of Title III in accelerating change and in institutionalizing innovations.

In this chapter the questionnaire data has been interpreted both according to the proposed hypotheses and the trends. The common factors have been noted from the interviews of five pairs of projects, one of which was successfully institutionalized. The findings were interpreted in regard to the literature and past research.

C H A P T E R V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In this chapter a presentation will be made of the finding of the study. It will draw conclusions from the data and indicate the one characteristic significantly associated with successful institutionalization. This finding will be useful to educational theorists who, from many studies such as this, will construct models for implementing change in education. Thirdly, it will make recommendations for further research in the area of institutionalization of educational change, or the adoption of innovations.

This study was a descriptive survey of all Title III proposal submitted in Massachusetts in 1966, regardless of whether they were approved and funded or rejected. Questionnaires were mailed to the superintendents of the 138 communities that submitted proposals. One hundred and one useable responses were returned for a 74% rate of reply. Of the replies from 101 proposals, 46 were rejected, and 55 were approved for one, two, or three years of funding. In addition to the questionnaire, a number of interviews were conducted to verify the questionnaires and to gain more insight into the characteristics associated with institutionalization.

The study first found Title III to be an effective program in encouraging and enabling the institutionalization of innovations. The study showed that forty or 72% of the approved projects, and remarkably nineteen or 41% of the rejected proposals were institutionalized.

Of the approved and institutionalized projects, 17 were institutionalized at full level and 23 were at a reduced level. Of the 46 rejected projects, 14 were institutionalized with regular budget funds, or regular funds in combination with other federal or private funds: five were institutionalized with additionally appropriated local funds.

Comparing the superintendents of institutionalized versus non-institutionalized proposals, there were no significant differences. However, on educational level they were clearly a selected group with 57% having the doctor's degree. They were new to their position with 58% new since the proposal was submitted in 1966. They were a mobile group with 54% coming to the superintendency from outside the school system. They were high in professional prestige with an average salary of \$25,000. They were experienced educators with an average of 20+ years of experience and an average age of 45. On use of various sources of information, they did not differ, either in attending conferences or in reading educational journals.

The questionnaire data produced no significant difference between characteristics of institutionalized and non-institutionalized innovations. Most superintendents tended to view their innovation as a new complex skill (77%), and yet only 50% needing extensive retraining; they perceived their innovation as divisible (82%), and yet as very distinctive (91%). These seeming contradictions, i.e., of a new skill without extensive training, and of distinctive but divisible innovations, are the perceived data as reported on the questionnaire.

The school system data indicated the important finding that institutionalized proposals had more types or categories of staff involved in preparing the original proposal than non-institutionalized proposals. Most successfully

adopted proposals had five or six categories of people (out of six) participating. This difference was significant at the .01 level. This finding is statistically significant and is an important characteristic both to school systems in preparing proposals, and to funding agencies in evaluating proposals.

Most systems in both groups tended to use special means of communicating with staff (as needed) rather than a regular, periodic publication. On the characteristics related to the profile of the professional staff, the average of these proposal communities was very close to the state mean score. Staff mean years in education was 10 years; staff mean level of education was a bachelor's degree plus 30 hours; percent of new staff per year was 20%.

However, on the two characteristics regarding community financial conditions, while there was not a significant difference between groups, the proposal communities seemed more affluent than the state average. The school systems, on the average, which submitted Title III proposals, both spent more dollars per pupil for instructional cost, and had a higher equalized assessed valuation per school attending child than the state average.

Concerning regional proposals, there seems to be a special problem. Only one of fifteen was institutionalized on a regional basis. The failure to continue regionally suggests the need for a different criteria for regional proposals. The promotion of inter-district cooperation and co-ordination was one of the goals of Title III. While there is considerable success in promoting adoption of innovations in one school district, a different pattern seems needed to successfully promote the adoption of regional innovations.

A series of interviews were held; each concerned the differences between a successfully and an unsuccessfully institutionalized innovation in the same community. These interviews noted other characteristics related to

successful institutionalization. Institutionalized innovations provided services during the school day; they included both administrative and teaching staff in carrying out the innovation. The continuity of leadership by the project director seemed associated with adoption: and a change in leadership seemed associated with rejection.

Conclusion

From these findings, a school system trying to adopt innovations should be aware of and consider the following characteristic. A funding agency should evaluate proposals for funding in relation to the same characteristic. Clearly from this study the one characteristic is that many categories or classes of people should participate in developing the proposal. Involvement of all segments of the school community in the preparation of the proposal was significantly related to the successful institutionalization of the innovation.

The building of a comprehensive theory of educational change and the construction of models for change in education must be built upon many research studies such as this. This study found one statistically significant characteristic which will be useful to educational theorists. Other trends and tendencies in this study need to be supported by further research before being found significant.

Recommendations for Further Research

This study should be replicated to verify its findings. The replications should vary from the original by being done:

1. in other states or several states, and
2. in other years (1966, 1967, 1968)
3. by interview rather than questionnaire to check that the medium of communicating is not a confounding factor.

In replicating this study, it might be well to modify it as suggested in the following ways:

This study was different from the other two studies of Title III projects in that it included both approved and rejected proposals. The study indicated the lack of differences on the several selected characteristics between those proposals which were and were not successfully institutionalized.

In order to better distinguish the characteristics of educational administrators who successfully institutionalize educational change another paper might study Title III proposal communities and superintendents compared with non-Title III proposal communities and their superintendents. This may lead to identifying the personal characteristics which distinguish innovative superintendents from non-innovative superintendents.

The characteristics of the innovation and more data concerning the project services, educational need, and project impact as related to institutionalization could be reassessed. Sources of information might be the project director, principals, and teachers rather than the superintendent alone.

The fate of the fifteen regional proposals, with the present trend toward metropolitan districts, indicates a problem in encouraging and enabling regional activity. Here a study of regional Title III projects in several states may isolate what services can best be provided on a regional basis. Such a study should also consider what supporting factors in state legislation or by state departments of education were present to facilitate institutionalization, and how long a regional innovation needs outside financial support in order to increase the adoption rate.

In this last chapter the findings of the study were reviewed. The one significant characteristic was noted for educational theorists; and recommendations were made concerning areas for further research.



DIVISION OF
CURRICULUM AND INSTRUCTION

The Commonwealth of Massachusetts

Department of Education

182 Tremont Street, Boston 02111

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Appendix A

Dear Superintendent:

Enclosed you will find a questionnaire which will be utilized with a project entitled A STUDY OF SELECTIVE FACTORS IN THE INSTITUTIONALIZATION OF EDUCATIONAL CHANGE. This study will provide a follow-up of all 1966 Title III proposals whether approved or rejected.

As a Bureau Director in the Department of Education it is my belief that this research will be of considerable value in providing us with findings which would have a profound effect in solving educational problems through innovative approaches. I would encourage all superintendents to assist us in providing quality education by responding to the enclosed questionnaire.

Thank you for your consideration.

Sincerely,

Robert A. Watson

Robert A. Watson
Director
Bureau of Curriculum Innovation

RAW:mj

QUESTIONNAIRE ON THE
INSTITUTIONALIZATION OF EDUCATIONAL CHANGE

Appendix E

School System _____

Title of Title III (E.S.E.A.) Proposal _____

Name of Superintendent _____

Status of Project

1.) Your 1966 Title III proposal (listed above) was

_____ approved and funded

_____ rejected

(Please continue and answer all items so that data will be available on both approved and rejected projects.)

(Please continue and answer all items so that data will be available on both approved and rejected projects.)

2a.) Your 1966 Title III Project activities were carried out with federal funds for _____ one, _____ two, _____ three, and _____ four years.

2b.) Even though the 1966 proposal was rejected, the new activities were implemented through

_____ a.) regular budgeted

_____ b.) additionally budgeted funds

_____ c.) federal funds (source) _____

_____ d.) private funds (source) _____

_____ e.) never implemented

3a.) The project activities

_____ a.) ended with the termination of federal funding.

_____ b.) are continuing at full level through local funds.

_____ c.) are continuing at reduced level through local funds.

_____ d.) other (explain)

Data on Superintendent

4.) Same person as at the submission of project in 1966.

___ Yes ___ No

5.) Age (now) ___ under 35

___ 36 to 40

___ 41 to 45

___ 46 to 55

___ 56 and over

6.) Number of years in present position. _____

7.) Number of years as an administrator. _____

8.) Number of years as a professional educator. _____

9.) Highest degree received (circle one)

Bachelor's Master's C.A.G.S. Doctor's

10.) Present annual salary (select one)

\$10,000 to \$15,000 _____

\$15,001 to \$20,000 _____

\$20,001 to \$25,000 _____

over \$25,001 _____

11.) Check the number of educational meetings outside of Massachusetts which you attended in 1970.

1 or 2 3 4 5 6 7 or more

12.) Was your previous position with this school system?

___ Yes ___ No

13.) How many professional journals do you read regularly?
(Circle One)

0 1 2 3 4 5 6 7 8 9 or more

Data on Innovative Activities

- 14.) How were the project activities evaluated? (Select one most suitable)
- By project director in terms of completing all tasks.
- By objective testing results on children and/or teachers participating.
- By survey questionnaire to parents, children, and/or professionals participating.
- By outside evaluator who visited and gave his professional opinion.
- By outside evaluator who designed and carried out a plan to determine how well objectives were really reached.
- 15.) Did the evaluation of your innovative activity indicate that it provided a better way of achieving the project goals?
- Yes, a superior way
- Yes, an equally good way
- No real evidence of improvement
- Can't answer
- 16.) In general, was the innovative activity a simple substitution in teaching behavior or did it require new complex skills?
- Simple substitution New complex skills Can't answer
- 17.) Was the innovative activity one that could be accepted or rejected in part by the classroom teacher or must it be totally accepted or rejected?
- In part Totally Can't answer
- 18.) Is the innovative activity distinctive, so that an observer would easily recognize it as something different?
- Yes No Don't know

19.) Did the innovative activity require or include extensive re-training for the staff in order to carry out the activity?

___ Yes, extensive re-training (18 hours per teacher or more)

___ No, little training

___ Can't answer

Data on the School System

20.) In developing this Title III proposal, did these kinds of personnel participate so as to influence the content of the proposal?

	Yes	No	Don't Know
a.) teachers	___	___	___
b.) principals	___	___	___
c.) directors or supervisors	___	___	___
d.) superintendent	___	___	___
e.) parents and other citizens	___	___	___
f.) school committee	___	___	___

21.) How does your school system keep all staff informed? (Select one considered main channel)

___ Monthly staff bulletin

___ Periodic staff newsletter (How frequent ___)

___ Public media (T.V., radio, press)

___ Normal meetings and special memoranda

22.) In a few words, describe the main thrust of your innovative activity, and the importance of being able or needing to try it out.

THANK YOU FOR YOUR TIME AND EFFORT IN COMPLETING THIS QUESTIONNAIRE.

27 Gillette Avenue
Springfield, Massachusetts 01118
May 3, 1971

Appendix C

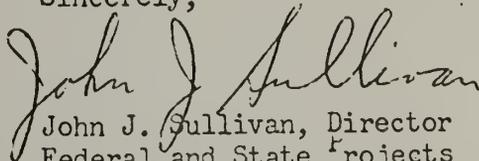
Dear Superintendent:

Each educational administrator is aware of his role in implementing change and developing innovations. With Title III, E.S.E.A., the federal and state governments have funded some school departments to develop innovations.

I am presently engaged in a study of the 1966 Title III, E.S.E.A. proposals - both approved and rejected - to determine the results of the proposal writing effort and/or the residue after the termination of federal funding. As a superintendent who submitted a proposal in 1966, your experience and progressive attitude in seeking innovations will play an important part in this study. I need information on the characteristics of the innovator, innovation, and the school system of both approved and rejected proposals. Your assistance in taking a few minutes of your valuable time to fill out the enclosed questionnaire will be of great help. Of course your replies will be held in confidence. All responses will be reported in group statistics only; names of communities or proposals will not be mentioned.

For your convenience, I have enclosed a self-addressed, stamped envelope. Your cooperation is most important to the study and I shall be grateful for your response.

Sincerely,



John J. Sullivan, Director
Federal and State Projects
Springfield School Department

JJS:lh

Enclosures

27 Gillette Avenue
Springfield, Massachusetts
June 28, 1971

Appendix D

Dear Superintendent:

A few weeks ago you received a brief questionnaire about the 1966 Title III (E.S.E.A.) project which was submitted by your community. We realize that this is a busy time of year, and yet it seems that there is no longer a slow time for public school administrators.

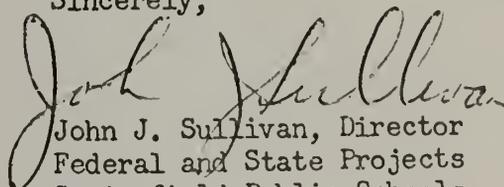
We feel that this study does have a value - both to public school people and to the State Department of Education staff. The enclosed letter from Robert Watson supports the interest of the State Department in this study. We need a response from all communities in order to increase the value of the study.

To date, 60% of the questionnaires have been returned. The questionnaire for the Title III project from your community is still missing. The missing questionnaires are restricted to a small number of communities - some with two, three, four and even five proposals in 1966. This indicates that these busy people have not had time to respond.

We are again asking your cooperation in completing and returning the questionnaires from your community, both for approved and rejected proposals. In case the previous one was misplaced, we are enclosing another copy of the questionnaire.

Thank you in advance for your time and consideration.

Sincerely,


John J. Sullivan, Director
Federal and State Projects
Springfield Public Schools

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