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A STUDY OF THE RELATIONSHIP BETWEEN ADMINISTRATORS' CHARACTERISTICS AND THE IMPLEMENTATION OF MANDATED CHANGE IN HIGHER EDUCATION IN OHIO

The Ohio State University

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A STUDY OF THE RELATIONSHIP BETWEEN ADMINISTRATORS' CHARACTERISTICS AND THE IMPLEMENTATION OF MANDATED CHANGE IN HIGHER EDUCATION IN OHIO

DISSERTATION

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

By

Cynthia Lynn Jackson, B.A., M.A.

* * * * *

The Ohio State University

1982

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Dedicated, with love, to my family

WILLIAM S. and MARY S. JACKSON

DERRICK L. and E. CAMILLE MOITE

Our devotion to each other makes all things possible.
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these people this study would have never been conducted.
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Studies in Organizational Development. Professor William W. Wayson

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CHAPTER I
THE PROBLEM

Introduction

An analysis of the literature concerning higher education indicates that there will be an increase in the influence that state departments of education and legislatures have on the organization, programs, and instructional techniques in higher education. The literature also points out that external agencies will mandate changes in various aspects of the standard operating procedures of higher education institutions (Hansen and Orlich, 1980; Smith, 1980).

The expected increase of mandated change in higher education by external agencies makes it necessary for post-secondary institutions to begin to examine their effectiveness in implementing change. People in these institutions need to become aware of how the institutional history, tradition, and standard operating procedures affect the change process (Martorana and Kuhns, 1975).

Observers of higher education institutes contend that the norms, values, and attitudes in these institutions are impediments to change. Although no one person can alter these impediments certain individuals are in positions to influence the institution's response to change.

A review of the change literature, and more specifically, higher education change literature suggest that the administrator is one of the key variables in the initiation and implementation of an innovation (Bennis, 1973; Blake and Mouton, 1981; House, 1976).
Purpose of the Study

This pilot study was designed to examine statistically the relationship between selected organizational factors associated with the change process and personal characteristics in situ of higher education administrators.

Six factors were identified through a review of the change literature as being critical in an organization's response to change:

1. Staff resistance;
2. Use of sanctions;
3. Changes in staff attitudes, behaviors, skills, and relationships;
4. Staff involvement;
5. Funding; and
6. Impact on existing program.

Of the six organizational factors, four were selected for study originally because they appeared to be related to selected personal characteristics of the administrator. The four organizational factors were: (1) staff resistance, (2) use of sanctions, (3) changes in staff attitude, behaviors, skills, and relationships, and (4) impact on existing program.

The "Administrator's Experience with Teacher Education Redesign" (AETER) was the instrument used to collect data concerning the first three organizational factors. Following a factor analysis conducted on this data gathering instrument, it was found that specific aspects of the three selected organizational factors were being measured. The three revised organizational factors employed were: (1) faculty
acceptance of change, (2) use of the organizational reward and sanction system, and (3) administrator's expected changes in faculty roles. A detailed discussion of the methods used to construct the instrument measuring these organizational factors and the factor analysis procedures will be presented in Chapter III.

The impact the change had on the existing program could not be thoroughly examined, at this time. However, it was possible to obtain a preliminary rating of how thoroughly the institutions implemented the change.

The final four dependent variables for this study were: (1) faculty acceptance of change, (2) use of the organizational reward and sanction system, (3) administrator's expected changes in faculty roles, and (4) rated effectiveness of the institutions' implementation of Teacher Education Redesign.

Selected characteristics of higher education administrators in situ were repeatedly identified in the change literature and through discussion with individuals who were knowledgeable about the change process as having some impact on the implementation of innovations. The administrator's characteristics in situ that were employed as independent variables in this study were: (1) attitude towards innovation in education, (2) leadership style(s), (3) the number of other special projects for which the administrator was responsible, (4) the changes in administrative leadership during the change process, and (5) whether or not Redesign implementation was considered the administrator's responsibility.
**Explanation of the Mandated Change**

The particular change that was the focal point of this study was described in "The Standards for Colleges and Universities Preparing Teachers" adopted in 1975 for the State of Ohio (from this point on referred to as Teacher Education Redesign, or Redesign). By July, 1980, Redesign was to be fully implemented by the 48 Ohio institutions that certify teachers.

The standards were written in response to increasing evidence that students preparing to be teachers for our changing society needed a broader educational background in order to do their jobs. The teacher education faculty at the 48 universities and colleges involved were to redesign the governance, organization, and programs of teacher education (Gress, 1977; Standards for Colleges and Universities Preparing Teachers, 1975).

A unique aspect of Redesign was the funding arrangement. Unlike many change efforts which were provided seed money for initiation and implementation, the institutions involved in Teacher Education Redesign continued to receive funding from the Ohio Department of Education after the program was incorporated into the institutions.

The new standards required an integration of five areas that were considered of concern to all pre-service teachers regardless of content area or level of concentration: reading, human relations, discipline, cultural pluralism, and analysis and evaluation through the use of diagnostic instruments. The standards also required that the institutions work closely with schools in the community, conduct follow-up studies of graduates, provide teacher education student services (i.e.,
admissions, counseling, placement, follow-up), establish an advisory committee for curriculum design and evaluation that was representative of the areas of concern, and provide field experiences for students in the schools no later than the beginning of the sophomore year (Standards, 1975).

The spirit of Redesign was to develop a program that was comprehensive enough to adapt to the needs of pre-service teachers enabling them to address the changing and varying needs of students. In order to meet this challenge it became obvious that the Redesign program was to be no small undertaking. The Teacher Education Redesign program meant a total restructuring of the goals, programs, and instructional techniques presently used. The restructuring also meant a change in the roles and relationships among faculty members (Standards, 1975).

**Definition of Terms**

For this study administrators of Teacher Education Redesign were defined as those individuals who at the time of the survey were identified as having the responsibility of providing direction for the Redesign program in their institution.

Leadership style(s) were defined by scores on "Leader Effectiveness and Adaptability Description" questionnaire (LEAD). LEAD measured an administrator's leadership style(s) based on the "Situational Leadership Theory" of Hersey and Blanchard. The four leadership styles were: (1) high task-low relationship, (2) high task-high relationship, (3) high relationship-low task, and (4) low task-low relationship. This leadership theory and the styles are discussed in detail in Chapter II.
Attitude towards innovation was defined as the score on the "Institutional Renewal Scale" questionnaire (IRS). IRS measured whether an educator had a favorable, unfavorable, or about equally favorable and unfavorable attitude towards innovation in education.

Organizational factors that were associated with the change process were defined by scores on the "Administrator's Experience with Teacher Education Redesign" questionnaire (AETER). AETER measured whether the institutional response to change in relation to three organizational factors were negative or positive. The three organizational factors were: (1) faculty acceptance of change, (2) administrator's expected changes in faculty roles, and (3) use of the organizational reward and sanction system.

The rated effectiveness of an institution's implementation of Redesign was judged by a knowledgeable jury on a three point scale. The criteria defining the scale were developed by the jury doing the rating and were articulated as follows:

1. Excellent implementation - the institution met the spirit and letter of the Redesign standards.
2. Average implementation - the institution met the letter of the Redesign standards but not the spirit.
3. Poor implementation - the spirit of the standards was not met by the institution and the letter of the standards was barely met.

The final effectiveness rating for each institution was arrived at through group consensus among the jury members.
Research Questions

A review of the change literature indicated that certain characteristics of administrators in situ may be related to organizational factors associated with the change process. Four basic research questions were posed to explore these relationships.

The primary research questions this study hoped to answer were:

1. Is the faculty acceptance of change as measured by AETER related to:
   (a) the administrator's leadership style(s) as measured by LEAD;
   (b) the administrator's attitude towards innovation in education as measured by IRS;
   (c) the number of other special projects for which the administrator was responsible;
   (d) the changes in administrative leadership during Redesign; and
   (e) whether or not Redesign implementation was the administrator's responsibility?

2. Are administrator's expected changes in faculty roles as measured by AETER related to:
   (a) the administrator's leadership style(s) as measured by LEAD;
   (b) the administrator's attitude towards innovation in education as measured by IRS;
   (c) the number of other special projects for which the administrator was responsible;
   (d) the changes in administrative leadership during Redesign; and
   (e) whether or not Redesign implementation was the administrator's responsibility?

3. Is the use of the organizational reward and sanction system as measured by AETER related to:
   (a) the administrator's leadership style(s) as measured by LEAD;
   (b) the administrator's attitude towards innovation in education as measured by IRS;
   (c) the number of other special projects for which the administrator was responsible;
   (d) the changes in administrative leadership during Redesign; and
   (e) whether or not Redesign implementation was the administrator's responsibility?
4. Is the rated effectiveness of the institution's implementation of Redesign as measured by a knowledgeable jury, related to:
   (a) the administrator's leadership style(s) as measured by LEAD;
   (b) the administrator's attitude towards innovation in education as measured by IRS;
   (c) the number of other special projects for which the administrator was responsible;
   (d) the changes in administrative leadership during Redesign; and
   (e) whether or not Redesign implementation was the administrator's responsibility?

The investigator also attempted to answer two subquestions:

1. Is there a statistically significant relationship between the type of institution and:
   (a) the administrator's leadership style(s) as measured by LEAD;
   (b) the administrator's attitude towards innovation in education as measured by IRS;
   (c) the number of other special projects for which the administrator was responsible;
   (d) the changes in administrative leadership during Redesign; and
   (e) whether or not Redesign implementation was the administrator's responsibility?

2. Is there a statistically significant relationship between the rated effectiveness of the institutions' implementation of Redesign and the type of institution?

**Procedures**

The study was based on responses obtained from the individuals who at the time of the survey were identified as having the responsibility of providing direction for the Redesign program for 43 colleges and universities in Ohio. These individuals were the administrators involved in Redesign.

To collect the data necessary to answer the research questions, the administrators were asked to respond to three questionnaires:

(1) "Administrator's Experience with Teacher Education Redesign" (AETER),
(2) Hersey and Blanchard's "Leader Effectiveness and Adaptability
Description" (LEAD) (1973), and Crowley's "Institutional Renewal Scale" (IRS) (1976). A background information sheet about the administrators and their institutions also was included.

The institutions were rated according to their effectiveness in implementing Teacher Education Redesign. Three individuals who were knowledgeable about Redesign implementation in all the institutions did the rating. The institutions were categorized as excellent, average, or poor in their implementation of Redesign. The rating categories were based on how well the institutions met the spirit and letter of the Redesign standards.

The data were analyzed through the use of descriptive statistics, Chi-square, and multiple regression. The use of multiple regression yielded predictive equations to help answer the primary research questions. Chi-square was employed to help answer the subquestions in the study.

A detailed discussion of the instruments and the analysis procedures is presented in Chapter III.

**Limitations of the Study**

In terms of the scope of the study, there were some limitations. The study was limited to one innovation in one state and was based on the responses of a small population of administrators in higher education. The results, therefore, have limited generalizability to other populations or other innovations. The data were gathered by using questionnaires and self-reports and were subject to the limitations of such data gathering techniques. Further discussion of these limitations appear in Chapter III. The study relies almost solely on
administrators' reports as measures of both independent and dependent variables. The AETER questionnaire was not pilot tested, which meant that estimates of the reliability and validity of the instrument were unknown prior to its use.

While there were limitations of the study as indicated above, there were certain advantages to conducting a study such as this one. It dealt with the same mandated change in 43 of the 48 institutions in the state. Two institutions identified two administrators of Redesign. Therefore, the findings were based on replies from 45 administrators. In addition, the study did incorporate an assessment of the effectiveness of the implementation made by three competent experts who had indepth knowledge about Teacher Education Redesign and intimate knowledge about all of the institutions and their implementation efforts. This assessment provided an external qualitative criterion on which to interpret the questionnaire and self-report data. The majority of the data were based on the reports from administrators. These individuals were in more of a position possibly to respond to items concerning the institutions' overall response to Redesign

Organization of the Remainder of the Study

The remainder of this study is composed of four chapters, a bibliography and appendices. In Chapter II, a review of selected literature and research that pertains to the topic of the study is presented. Chapter III describes the instruments, methodology, data gathering procedures and analysis employed to answer the research questions. Chapter IV reports the findings. The final chapter contains the conclusions, a discussion, and the recommendations for further study.
CHAPTER II
REVIEW OF LITERATURE

Introduction

The review is organized around six themes: (1) initiation and implementation of change; (2) organization of postsecondary institutions; (3) the impact of external forces on higher education; (4) higher education institutions and change; (5) leadership theory; and (6) administrator's effect on change in higher education.

Initiation and Implementation of Change

"The word change is used to mean an alteration in the structure of the organization, on any of its processes or in its goals and processes" (Griffiths, 1969, p. 369). Authors such as Argyris, Abbott, Bennis, Benne, Chin, Miles, and Zaltman have written extensively on the change process. They agree that all systems at some time will undergo change. The authors emphasize that a system's ability to plan and achieve change is a major difference between an effective and ineffective system.

A review of the change literature indicates that change seems to be facilitated by: (1) internal and/or external dissatisfaction with the status quo; (2) supportive internal and external environments; (3) effective communication; (4) norms that support the change; and (5) the presence of an advocate for the change (Abbott, 1969; Argyris, 1970; Collingwood, 1979; Gross, Giaquinta and Bernstein, 1971; Hall, 1973; Hefferlin, 1969; Nicodemus, 1977; Schmuck and Miles, 1971; Zaltman and Duncan, 1977).
In spite of all the literature on the change process which could be used to guide educational change efforts, most educational innovations never get started or are evaluated as unsuccessful and abandoned. It seems little has been learned from the mistakes of others. Instead, mistakes are repeated because the existing research on change is not applied to the situation (Martorana and Kuhns, 1975).

Proactive Versus Reactive Response to Change

One frequent mistake that is made is in the nature of the response to change. Press for change may emanate from sources internal to the system or external to it. In either case the nature of the system's response to change is more important than the source of the pressure for change. The response to change can manifest itself in one of two ways: proactive or reactive (Chin and Benne, 1976).

A proactive response to change is called "planned change." The members of a system that initiate a planned change are aware of the unbalanced interaction between its external and internal environments and will take systematic, conscious, and deliberate action to make adjustments (Chin and Benne, 1976).

A reactive response to change is called "unplanned change." The members of the organization are not aware of the unbalanced interaction between its two environments or they do not choose to take appropriate action for the two environments to continue to try adapting to each other. As the pressure for change increases on the system, the lack of awareness or action engenders a response where there is no real attempt to plan, coordinate and deliberately make an adjustment. A facade of a change is developed that at best only copes with the
pressure. A behavior pattern forms within which the system is constantly reacting and coping with the forces of change (Chin and Benne, 1976; Zaltman and Duncan, 1977).

Educational Change and Consensus on Purpose

A second mistake that is made when implementing educational innovation is pointed out by Mann (1976). He believes when changes are attempted in education the implementation process is rooted in certain assumptions. He points first to a belief in the idea that people are malleable and can be changed into perfect humans; second, that people are rational, goal oriented and use information and calculation to govern their actions. Finally, he writes:

Third, we assume that people in education share social purpose at some lofty level of conceptualization, on which school people agree. (1976, p. 330)

Mann (1976) continues that, because the values and goals of individuals in education vary greatly, there is little chance of reaching consensus on the purposes of education. Zaltman, Florio, and Sikorski (1977) share the same view.

This lack of consensus on the purpose of education puts the educational innovation at a disadvantage from the beginning and makes implementation difficult. Once educators acknowledge the fact that their goals and values for education vary, they can begin to understand why change is not easy and why the resistance to change is natural (Mann, 1976).
The Role of Planning

Before formal planning is begun it is desirable to identify the differences among the goals and values of people in educational settings. In this regard information should be gathered by the administrator about resources, constraints, attitudes, values, and norms from the potential implementors' point of view. The information would assist the planner in developing an appropriate strategy for change (Mann, 1976; Zaltman et al., 1977).

Once such information has been gathered, a plan for change can be written. The plan serves as a management tool that involves the interaction of "(A) attributes of the innovation itself; (B) environment in which innovation is to take place, and (C) characteristics of the potential users" (Collingwood, 1979, p. 8). If planning proceeds without understanding what information is needed and what is involved in the plan, the innovation will not be systematically implemented or perhaps not implemented at all (Collingwood, 1979; Vallance, 1972).

Some educational innovations have been considered successful or partially successful. However, many educational innovations fall into one of three categories: those that (1) never get started, (2) are total failures, or (3) have doubtful success. It should be noted that not all innovations are ineffective due to lack of planning. In some cases, for example, the plan was not flexible enough to handle the ambiguity and uncertainty of a change effort (Charter and Pellegrin, 1972; Nicodemus, 1977).

Berman and McLaughlin (1975) found that the strategy used to implement a change can enhance or impede the process. An inflexible
strategy for implementing a new program is inappropriate. Strategies that attempt to adapt the innovation and setting to each other and require active participation on the part of the implementors were more effective. They called this strategy "implementation strategy."

This implementation strategy uses a process Berman and McLaughlin call "mutual adaptation." Mutual adaptation involves adaptive planning, staff training, staff material development and regular staff meetings. They identify several benefits that derive from mutual adaptation. For example, mutual adaptation helps to make individuals aware of the risk-taking, uncertainty, and ambiguity of a change effort; the process encourages participants to experiment with ideas. In addition, staff participation, which is part of mutual adaptation, helps to establish a sense of ownership and commitment to the change, along with highlighting the importance of self-change (1976, 1975).

Staff Resistance to Change

The willingness or unwillingness of individuals to accept change may be related to the character of the planning and/or the degree to which active participation is encouraged. Individuals are likely to be more willing to accept change if an adequate plan for the change is presented to them. The lack of a plan or an inadequate plan is likely to generate unwillingness to accept change. In a similar manner, encouraging active participation is likely to generate willingness to accept change and discouraging such participation tends to generate unwillingness to accept change. Planning and participation can serve as means to indicate to the implementors what the change involves, what they will have to change about themselves, the necessity
for self-change and how self-change will facilitate the implementation process (Berman and McLaughlin, 1976, 1975).

Yet, even when a plan exists and participation is encouraged, resistance may occur. This resistance may be because the implementor is not ready to participate in a change effort. Change requires restructuring beliefs, needs, interests, goals, roles, and relationships on the part of the participants. When an innovation is introduced into an organization, individuals want to know how congruent the change is with their needs and how much restructuring is required. If individuals cannot see a congruence or if the change requires more restructuring than they are ready to do, they resist. When resistance occurs, there are, at least, two options available to handle it: sanctions or advocacy (Bennis, 1973; Berman and McLaughlin, 1976, 1975).

Warren (1976) believes that sanctions are necessary for implementation. Handling resistance through the establishment of formal and informal sanctions is usually based on the use of power and authority. Individuals are forced to comply in order to have their needs met (Argyle, 1967; Warren, 1976). However, Argyle (1967) contends that sanctions do not necessarily facilitate a desired change in people or an effective implementation of the innovation. The use of sanctions as the sole means for insuring staff compliance to implement an innovation implies that implementation will be immediate because a decision to initiate a change effort has been made. The use of sanctions as the means for staff compliance does not give implementors the opportunity to understand the relationship between their behavior and the implementation process. The use of sanctions can hinder participants'
development of a sense of commitment to the innovation. The norm may be to just do enough to get by.

In contrast to relying on sanctions for the implementation of change, Argyle (1967) and House (1976) recommend the use of advocacy. The role of the advocate is to support the change, communicate the advantages of the change to others, while understanding that acceptance, usage and even the form of the innovation will not be automatic. A primary skill of the advocate is two-way communication. The advocate sees the advantages and attempts to show individuals how the advantages related to their goals and values. Advocacy assumes that when people see the advantages of change in relation to their needs there will be less resistance because they will have a vested interest in the new program. Having a vested interest usually evokes some degree of commitment. The advocate does not disregard the importance of sanctions. Instead he/she uses them with caution and for specific purposes (Argyle, 1967; House, 1976).

Role of Communication

Few tend to recognize the relation between communication and change. A lack of understanding of this relationship may become a major obstacle to any change effort. To many, some innovative ideas seem "old hat"; people claim they have heard all this before. In many cases they have heard about the innovation, but poor communication results in their not understanding the innovation well enough to implement (Achilles and Norman, 1974; Hall, 1973; Nicodemus, 1977; Vallance, 1972).
Achilles and Norman (1974) have identified with respect to innovations five stages of communication: (1) awareness, (2) interest, (3) evaluation, (4) trial, and (5) adoption. Of these five stages of communication, the first two— (1) awareness, and (2) interest— can be achieved fairly well through one-way communication. The last three stages cannot be successfully achieved using one-way communication but require two-way communication. In some change efforts one-way communication is used for the first two stages then communication ceases. In other instances one-way communication is used during all five stages. In either case the failure to communicate effectively makes for great difficulty in implementation. It often seems that communication breaks down at the point when it would do the most to sustain active participation in the innovation.

Direct two-way communication that is face-to-face is essential because of the uncertain and ambiguous nature of change. Two-way communication allows the implementors to participate in problem-solving, planning, and negotiation. The implementors have a need for extended interaction to ask questions and have their doubts allayed (Achilles and Norman, 1974; House, 1976; Nicodemus, 1977). It is a justified need that should be admitted. Admission of this need could help in understanding and managing the resistance to change and in the developmental use of a change.

Organization of Post-Secondary Institutions

Institutions of higher education have been viewed as homogeneous in goals, policy making procedures, faculty task and governance. Yet findings from studies reveal that the post-secondary institutions are
not homogeneous. Their relation with their environments, their professional tasks, and their size and complexity are variables associated with diversity among such institutions (Baldridge, Curtis, Ecker, and Riley, 1978; Bennis, 1973; Blau, 1973; Martorana and Kuhns, 1975).

In a study conducted by Baldridge et al., (1978) eight categories of post-secondary institutions were identified. The categories were arranged into a topology. "Private Multiversities, Public Multiversities, Elite Liberal Arts Colleges, Public Comprehensive Colleges, Public Colleges, Liberal Arts Colleges, Community Colleges, and Private Junior Colleges" (p. 11). Since four-year institutions were involved in the Redesign program, only the first six of the eight categories presented by Baldridge et al. (1978) will be described.

**Private and Public Multiversities**

These two categories of institutions are described by Baldridge as large and prestigious. The faculty members are well known in their discipline. The focus of the professional task is research and graduate training.

The major difference between these two types of institutions is the funding sources. Private Multiversities are supported with federal and foundation monies. Public Multiversities are primarily supported with state funding, and receive a large amount of federal funding for research.

The size of these institutions makes it necessary for them to be fragmented into several departments, colleges, or schools. In turn, fragmentation creates organizationally complex institutions. This
organizational complexity necessitates a dispersion of power and influence in decision making areas. Fragmentation and complexity can temper administrators' power by increasing faculty influence. Administrators have only moderate control over the institution as a whole. The areas of faculty and administrators' decision influence are fairly well defined. Administrators' influence is in long-range planning, budget, and institutional policy. Strong faculty influence and control exist over departments and academic programs.

Baldridge points out that these institutions' involvement with their external environment is high but the influence of the environment on them is low to moderate. Established tradition, faculty influence and prestige coupled with the size and complexity of the institutions make it possible to protect departments from a great deal of external intervention in the standard operating procedures.

Elite Liberal Arts Colleges

These colleges are private and small to medium in size. They have highly trained faculty, good degree programs, and are strong in scholarship and research. They are known for excellent baccalaureate programs although some offer masters and doctorates.

They do not receive as much federal funding for research as multiversities. Most of their funding is derived from tuition and endowments. Because of the way they are funded, external influence is limited.

Administrators work closely with faculty members, but not in a manner which could be considered interfering. The relationship between faculty and administrator is one of a "community of scholars"
There is continuing communication and interaction for the exchange of ideas. These colleges have a higher level of faculty involvement in college-wide concerns and governance than those in any other category.

**Public Comprehensive Colleges and Public Colleges**

Public Comprehensive Colleges are classified by Baldridge as "upper middle-range" (p. 93) public institutions in quality. The strong point of these institutions is the baccalaureate program, though graduate programs may be offered. The faculty is not as distinguished as in the multiversities and there is not a strong emphasis on research.

Public Colleges are classified as "lower middle-range" (p. 94) in quality. The programs are average and the faculty is not as well qualified as those in the higher categories. The focus is on undergraduate teaching of average college students. In some cases professional or occupational programs may also be offered.

Faculty participation and influence in governance issues are extremely low in both types of institutions. Administrators' and faculty's areas of control and influence are not always clear. In addition, strong bureaucratic control weakens faculty influence. Administrators are more powerful than their counterparts in institutions at the apex of the topology.

These institutions are not able to shield themselves as well as multiversities and elite liberal arts colleges from external influence. Legislative and state department of education mandates have a great deal of impact on their instructional techniques, programs, and
policies. Outside intervention is great because these colleges rely heavily on state funding and they do not have the size, complexity, or prestige to dissipate the external forces.

Private Liberal Arts Colleges

Private Liberal Arts Colleges are less prestigious than the elite liberal arts colleges because they do not focus on research and the faculty is not as highly qualified.

Many of these institutions are church-affiliated. The funding is primarily based on tuition and church money. External intervention is great, but the intervention usually comes from the religious governance board. Secular intervention affects them when accreditation or abiding with the law is contingent on compliance. Generally, these institutions receive little state or federal funding.

Administrators have a tremendous amount of influence on the governance, programs, and instructional techniques employed in the institutions. The strong influence of administrators makes faculty influence extremely weak. Administrators in these institutions have a high degree of bureaucratic control over the faculty.

Summary of Baldridge's Topology

In summary, the size and complexity of an institution creates certain relations between the institution and its environment, and affects the nature of the tasks of the faculty and the governance procedures. Progressively moving up the topology the faculty is more influential, the administrator is less dominant and the impact of external intervention is lessened (Baldridge et al., 1978).
In general, external influence has more impact on public institutions and institutions at the lower end of the topology. The larger and more complex the institution, the easier it is to dissipate outside interference as it moves through the complex network of the organization (Baldridge et al., 1978; Blau, 1973).

Size and complexity also dictate whether the decision processes are centralized or decentralized. Larger institutions are fragmented into several subunits. Fragmentation makes it impossible for one administrator to effectively handle all decisions that must be made; therefore, the decision processes are decentralized into areas of influence. The lower an institution is on the topology, the smaller the size and the less complex it is. As complexity and size decrease, centralized decision making increases (Baldridge et al., 1978).

When the decision processes are centralized, "bureaucratic authority" is predominant because all final authority is held by one person. On the other hand, when the decision processes are decentralized, there is more "professional authority" because the authority is dispersed and many have an opportunity to influence final decisions (Blau, 1973, p. 161).

Professional tasks of the faculty vary according to the category of the institution. The higher an institution is on the topology the more faculty tasks are focused on research and graduate training. When the overall level of training of faculty is high, the more they are freed from bureaucratic control and regulations, and dominance by the administrator (Baldridge et al., 1978).
Impact of External Forces on Higher Education

Large amounts of money are devoted to higher education by state and federal governments each year. Funding from these sources is usually accompanied by certain regulations that are to be carried out in order for funding and/or accreditation to continue.

At one time universities and colleges were sheltered from outside intervention. External influence escalated during the early 1960s as post-secondary institutions were focused to meet the needs of society and as they received more public funding to meet these needs (Balknap and Kuhn, 1977).

In 1971, Hodgkinson hypothesized that because of an increase in public funding there would be an increase of outside intervention on the goals, policies and practices of higher education institutions. He found a slight increase (15-20% compared to the previous decade) of state departments of education influence on colleges and universities in the areas of institutional policy and programs.

Hansen and Orlich (1980) and Smith (1980) believe that as a result of depressed economic conditions, increase social demands, increase in specialized areas, and a decrease of student enrollment, universities and colleges will become increasingly dependent on some type of government financing. In order to receive the funds, institutions will have to comply with funding regulations. The authors add that the present societal conditions that affect higher education will mean an increase in the influence of state departments of education, other special interest groups, and legislative mandates. Mandates from
state departments of education and legislatures will have programmatic, instructional and/or organizational implications.

A nationwide survey conducted by Duea (1981) on the present and future concerns of administrators in public and private post-secondary institutions revealed findings similar to Smith (1980) and Hansen and Orlich (1980). Of the twenty categories of concerns ranked, government intervention ranked tenth as a present concern. When respondents projected concerns for the next decade, it ranked fourth. The first three rankings of future concerns in higher education were: (1) finance, (2) changing goals, and (3) decline in enrollment.

Higher Education Institutions and Change

There is a call, by several authors, for more research concerning higher education particularly in the area of innovation. This request for research on change in higher education is based on at least two factors: One is the increased evidence of external press for changes in post-secondary education. The other is related to the nature of the institutional response when change is introduced in higher education. The response tends to be more reactive than proactive to problems and pressures (Bennis, 1973; Hansen and Orlich, 1980; Martorana and Kuhns, 1975; Smith, 1980).

If the initiation and implementation of change were a rational process, institutions might better respond to change. Prebble (1978) questions the idea of viewing change as a solely rational process. The goals for educational institutions are not clear and consensus on the goals, as indicated earlier, have not been reached. He contends that few innovations come about because a need is sensed, clearly
identified, alternatives developed, a plan written and then implemented.
Instead, the change process is irrational. There are no specific steps
to be followed when implementing change. The irrationality of the
process may be especially complicated in institutions of higher educa-
tion. When attempting to respond and adapt, individuals in higher
education will use tenure, academic freedom, and the review and approval
mechanism as ways to slow down or halt the implementation process

Resistant Nature of Higher Education

Institutions of higher education are for the most part resistant
to change. Though they may grow in size and add a few new functions,
the original goals and procedures of the institution are maintained
until pressure is applied for change. Few such institutions are struc-
tured to initiate change. The nature of change requires the ability to
tolerate uncertainty, unreliability, duplication, and a lack of control
over all outcomes. Most higher education institutions are not struc-
tured to tolerate such conditions (Collingwood, 1979; Hefferlin, 1969;

There is also a built-in resistance to change based on the fact
that historically, unlike business, universities and colleges do not
build reputations on new ideas, but rather on tradition. In most
instances the response to an innovation is, "Why take the risk with
an uncertainty when what we have has been working?" The norm is to
wait and see (Hefferlin, 1969; Martorana and Kuhns, 1975).

Observers agree that changes are not readily made in universities
and colleges, especially when change requires individuals to learn new
skills, behaviors, attitudes, roles and relationships. Yet for change to occur the implementors will have to undergo such changes in themselves (Abbott, 1969; Berman and McLaughlin, 1975; Zaltman and Duncan, 1977).

Whenever institutions of higher education are presented with a change effort, many values and traditions are threatened. The threat is keenly felt by academics because they view themselves as independent professionals. As independent professionals the fundamental recognition they receive is based on their long established skills, performance, academic interest, and the roles and relationships they have developed (Hefferlin, 1969; House, 1976; Martorana and Kuhns, 1975).

Studies by Hefferlin (1969) and Vallance (1972) reveal that a main obstacle to change, in higher education, is territoriality. Territoriality involves: research preferences, finances, and allegiance of faculty members to their discipline. Innovations are often seen as being in competition with the territory of the established unit or discipline.

Universities and colleges, at least in the higher categories of Baldridge's topology, are the one level of educational institutions that acknowledge the fact that goal consensus in education does not exist. Academics are allowed to operate freely on their personal goals and interest for education. Allowing individuals to function in terms of their personal goals led to the tradition of academic freedom. Pursuit of personal goals coupled with academic freedom makes it possible for individuals to develop disciplines that are
specifically of interest to them (Baldridge et al., 1978; Bennis, 1973; Fincher, 1972; Griffiths, 1969).

Academic freedom allows each individual and department some degree of independence from others. When faculty members' or departments' territory is threatened, resistance will increase. A conflict develops between the innovation and the need for the department or individual to protect and maintain his/her identity and interest (Balknap and Kuhn, 1977; Collingwood, 1979; Fincher, 1972; Martorana and Kuhns, 1975; Vallance, 1972).

If individuals in higher education are asked to lose some degree of identity with their home discipline and with colleagues with whom they work, then it should not be expected that they will readily commit themselves to a change effort (Vallance, 1972).

Planning Change in Higher Education

Many attempts at change in higher education have failed in the past because the attempt to change was undertaken without examining goals, resources, readiness of implementors, or the administrator's ability to plan, initiate and implement change. Before an institution can begin to plan the implementation of an innovation it must be sure that information on goals, resources, readiness, and administrator's competence have been gathered (Baldridge et al., 1978; Bennis, 1973; Griffiths, 1969; Murphy, Baker, and Fisher, 1974).

Lack of such information leads to inadequate planning or unsystematic implementation. It is the plan that gives direction to an innovation. Without an adequate plan an addition is likely to be made to what already exists instead of rethinking and restructuring
the program. A patchwork effect develops because it is no longer clear what was to be changed and why. The patchwork effect also allows each change to be viewed in isolation from what is occurring and what may need to occur in the future. Because changes in higher education are seldom planned or are unsystematically implemented, change is rarely fused with the present organization, instructional techniques, or programs. Most observers of innovation in higher education would agree that institutions of higher education have a reactive response to the pressure for change rather than a proactive response (Hefferlin, 1969; Heiss, 1973; Martorana and Kuhns, 1975; Singletary, 1978).

**Decision Processes' Effect on Change**

Decentralized decision processes in higher education are primarily found in universities and elite liberal arts colleges. Though there are positive benefits for these processes, they can be an obstacle for a change effort. In higher education, decentralized processes are usually embedded in a complex network or hierarchy with many levels. If a decision on an innovation must go through several levels, movement through the network slows down the implementation process and causes delays. New problems can occur before a decision is made on the first problem (Blau, 1973; Martorana and Kuhns, 1975).

Authors agree that centralized decision processes are more functional for a change effort. Although staff involvement should be encouraged and is necessary, there are many instances when decisions must be made by one individual to keep the decision processes consistent and the implementation process moving. Many authors emphasize that, to a great degree, the decision-making processes should be
centralized during the entire implementation phase (Blau, 1973; Martorana and Kuhns, 1975).

**Leadership Theory**

Leadership may be defined as the ability of an individual to influence and/or direct others' behavior towards the achievement of a common goal. The failure or success of an organization is based in part on the effectiveness of its leaders (Hersey and Blanchard, 1977; Sergiovanni and Starratt, 1971; Tannenbaum, Weschler and Massarik, 1959; Terry, 1960).

For several years studies were conducted in an attempt to identify inherent traits of leaders. In spite of all the research, nothing was found that identified a trait that was peculiar to leaders. Due to the lack of findings these types of studies were abandoned (Jennings, 1969).

There were shortcomings of the trait studies. One shortcoming was the lack of significant or consistent findings of inherent personal qualities of leaders. A second shortcoming ignored the possibility that individuals can be trained as leaders. Recognizing the shortcoming of these types of studies, the shift in leadership research moved towards identifying the most effective leadership style. Leadership behaviors were placed on a continuum from authoritarian to democratic (Blake and Mouton, 1976; Hersey and Blanchard, 1977).

Taylor's leadership theory principles were entitled "Scientific Management." This leadership theory focused on production. On the continuum of leadership styles this style was considered authoritarian. Communication was one way, whereby the superior explains, directs, and
controls the behavior of the subordinates (Hersey and Blanchard, 1977, 1972; McGregor, 1960).

The democratic style of leadership tended to focus more on people than on the task itself. The style encouraged two-way communication between superior and subordinate. The role of the leader was primarily focused on interpersonal relationships. By providing socioemotional support, the leader was able to promote the necessary behavior from the subordinates to accomplish the task. It was believed that a leadership style that more closely resembled a democratic style was the most effective (Hersey and Blanchard, 1977, 1972; McGregor, 1960).

A study conducted in 1945 at The Ohio State University using the "Leadership Behavior Questionnaire" found that leader structuring of the task and the interpersonal relationship between leader and followers were two separate and distinct dimensions of leadership. Every leader was concerned about both, but not necessarily with the same intensity. A low score on one did not mean a low score on the other (Stogdill and Coons, 1957).

One leadership model based on the findings of Stogdill and Coons is the Managerial Grid developed by Blake and Mouton (1981, 1976). The two concerns (task and relationship) were displayed on a grid. Using the Grid in reference to academic administrators, concern for task would include concern for institutional outcomes and achieving institutional goals; concern for relationships would involve the leaders' daily interaction with people they encounter because of their position (i.e., other administrators, trustees, students, faculty members, etc.).
The level of importance of each concern ranges from 1 (low) to 9 (high). (See Figure 1) The intersection of each point on the Grid indicates leaders' attitudes toward the importance of task and relationship in performing their role. The explanation of the intersection of selected points on the Grid are the following: (a) 9,1 - high concern for task, little concern for relationship; (b) 1,9 - little concern for task, high concern for relationship; (c) 1,1 - little or no concern for task or relationship; (d) 5,5 - concern for task and relationship, yet the level of concern is just enough to get by; and (e) 9,9 - concern for both task and relationship is high indicating that the aim of the leader is to both maximize performance and meet the needs of people.

The Grid is presented in Figure 1. The purpose of the Managerial Grid was to demonstrate the options available for administrators, but 9.9 was seen as the most effective style (1976).

Haplin (1969), Blake and Mouton (1976) and others believe that the most effective leadership style for all situations is one of high concern for task and relationship. In fact, they trained leaders to develop skills based on this style.

Hersey and Blanchard, on the other hand, state that there is no one style that will be effective for all situations. Taking the findings of Stodgill and Coons, Hersey and Blanchard found that not only are leaders concerned with task and relationships with varying intensity, but the level of concern shown for task and/or relationship was related to the situation. From studies they conducted on leaders in R&D centers, the military, business, and education they found that the appropriate style varies with the situation. The situation
Figure 1. Blake and Mouton's Managerial Grid
involves both the maturity of the followers and the nature of the task. The degree of maturity of followers depends on their level of education/training, experience with the task, acceptance of responsibility and motivation (1977, 1972).

The "Life Cycle Theory of Leadership" (now called the "Situational Leadership Theory") developed by Hersey and Blanchard is "based on a curvilinear relationship between task behavior and relationship behavior and the maturity of the followers" (1972, p. 134). As the maturity of a follower increases, structuring of the task and relationship by the leader decreases. As the maturity of a follower decreases, structuring of the task and/or relationship by the leader increases. The ability of administrators to diagnose the situation and adapt their behavior appropriately marks the difference between an effective and ineffective leader (Hersey and Blanchard, 1977).

The Hersey and Blanchard model is divided into four quadrants. Each quadrant (see Figure 2) represents a type of leadership behavior that is appropriate for a given situation. In the high task and low relationship quadrant (Q1) communication is one way. The leader directs and controls the behavior of the follower for one of two reasons: (a) the task is being done under a time constraint or (b) the follower does not have the skills or understanding to complete the task independently (M1). In the high task and high relationship quadrant (Q2) the leader continues to direct and control the task of the follower but also gives socioemotional support through two-way communication. The follower is beginning to understand the task, but it is also necessary for the leader to provide support to encourage
Figure 2. Hersey and Blanchard's Model

Maturity of Followers

<table>
<thead>
<tr>
<th>Immature</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>Mature</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOW</td>
<td></td>
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<td>HIGH</td>
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<tr>
<td>MODERATE</td>
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</tr>
<tr>
<td>HIGH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LOW</td>
</tr>
</tbody>
</table>

Relationship Behavior

Task Behavior

Low

High

Style of Leader

Low

High

LOW

HIGH

1

2

3

4
the follower to continue development (M2). In the high relationship and low task quadrant (Q3) the follower has the skill and understanding to complete the task independently. Yet the leader still provides socio-emotional support by allowing the follower to participate in decision making with the leader (M3). In the low task and low relationship quadrant (Q4) the follower is at a high level of maturity (M4); therefore, the leader delegates responsibility and provides little or no direction or support (1977, 1972).

Ideally, effective leaders are ones who have a leadership range that includes the four quadrants and use the appropriate behavior for the situation. The dominant leadership style is the behavior exhibited by the leader most of the time. The support leadership style(s) are behaviors that are not exhibited frequently by the leader, but he/she has the capability to exhibit the behavior if the situation requires. The authors emphasize that the leader that does not have a wide range of styles or does not diagnose the situation properly can develop the needed skills (Hersey and Blanchard, 1977, 1972).

Hersey and Blanchard (1969) point out that the administrator's movement through the four quadrants does not occur automatically. The movement is a gradual developmental process as "a result of planned growth and the creation of mutual trust and respect" between the administrator and staff members (p. 337). The authors continue, that in studies of administrators in R&D centers they found it was especially important for administrators to recognize this developmental process due to the dynamic nature of research and development (1969).
"Level of Use" studies conducted by Hall (1973) reinforces Hersey and Blanchard's findings in studies of R&D center administrators. Hall found the use of an innovation by an individual is a developmental process, whereby the implementor moves through hierarchical levels of use. Passage from one level to the next requires gradual restructuring of personal characteristics. This gradual restructuring means staff members will be at varying levels of the usage hierarchy and therefore at varying levels of maturity in effectively working in the change effort.

Administrator's Effect on Change in Higher Education

Whether the press for change is external or internal to an institution, the actual implementation of the change occurs because of the efforts of individuals that are internal to the organization (Hefferlin, 1969).

Post-secondary institutions are rooted in their history, traditions, and standard operating procedures. These aspects of the institutions are perpetuated by the administrative leadership of the institutions. Therefore one key variable to altering the practices of higher education institutions is the administrator.

Administrators can be the key to whether an innovation is implemented, not implemented, or abandoned. Administrators help set the tone and climate of the institution implementing the change. The tone and climate is established in part by what administrators say, do, tolerate, and ignore. Change can be more successfully accomplished when administrators are committed to the change. Their behavior and attitude determine their effectiveness in influencing others to put
committed effort into implementing the change. Their behavior also serves as an indication of what they expect from others (Blake and Mouton, 1981; Hansen and Orlich, 1980; Hersey and Blanchard, 1977, 1972; Martorana and Kuhns, 1975).

Administrators as Advocates of Change

The administrators' role in innovation involves, among other things, the functions of disseminating information, and keeping the interest and energy levels of the implementors high. In effect, administrators have to be advocates of the innovation. If they are not advocates, it is likely that no one else will be. Administrators' ability to influence affects their ability to be effective advocates of the change (Berman and McLaughlin, 1976, 1975; Hefferlin, 1969; House, 1976; Nicodemus, 1977).

French and Raven (1960) define influence as the use of power to induce necessary behavior for the completion of a task. Influence stems from one of two sources: (1) position - people follow the leader because of the leader's position in the organization, and (2) personal - people follow the leader because they have respect and belief in the abilities of the leader.

French and Raven identify five types of power. The types of power can be broken down into the source of influence. Listed below are the types of power in reference to the source of influence:

Position Influence

1. **reward power** - a follower's willingness to do a task is based on the number of rewards the follower believes the leader can provide (money, promotion, etc.); and

2. **coercive power** - a follower does a task to avoid punishment by the leader (firing, demotion, etc.); and
3. **legitimate power** - a follower completes a task because the follower believes that the leader has a right to make the request due to his/her position.

**Personal Influence**

1. **referent power** - a follower's willingness to complete a task is based on what the leader represents or stands for; and

2. **expert power** - a follower completes a task because the follower's belief that the leader has the expertise and knowledge in the area of concern to influence the follower. (1960)

The nature of academic norms (i.e., academic freedom and tenure) and the skill level of faculty members makes administrators' ability to use personal influence as opposed to position influence one of their most effective skills for initiating and implementing change (Hersey and Blanchard, 1977, 1969; House, 1976).

The advocacy of an administrator is so critical that Hansen and Orlich (1980) found that when an administrator abandoned an innovation, regardless of the reason, the probability of the change effort dissipating or being ineffectual is very high. The authors stressed not only the importance of the administrator as the initiator of an innovation, but also the need for the same administrator to continue advocacy responsibilities throughout the implementation process.

The advocacy role and the responsibilities for implementing change are demanding and time consuming. Administrators are concerned with handling the ambiguity, uncertainty, and risk of a change effort and at the same time disseminating information and keeping implementors' interest and energy levels high. When one considers the administrative tasks required for them to effectively fulfill their role and
responsibilities, the need for administrators to be readily accessible to address issues as they arise is crucial. Therefore, it would be to administrators' advantage to be responsible for implementing a limited number of major institutional changes. The number of change efforts an administrator can effectively handle is based on the social and psychological make-up of the administrator (Judson, 1966).

Summary

The topic of change has received a great deal of attention from various authors. All seem to agree that the ability of individuals in an organization to recognize a disequilibrium between its external and internal environments and to develop a planned response is the difference between an effective and ineffective organization in a changing society.

Two important predictors of an effective initiation and implementation of change are planned response on the part of the institution and two-way communication among individuals involved. The structural, functional, and social operations of colleges and universities are not always conducive to making the two predictors work effectively. In order for the predictors to become effective the individuals in higher education must make conscious efforts to facilitate change. A summary of the major ideas presented in this review of the literature follows.

Response to change. From the results of a survey conducted by Duea (1981), it is apparent that one of the primary future concerns of post-secondary administrators is a concern about external intervention. As the need for academic institutions to request more public funding increases, outside intervention will increase. Although academic
institutions undergo structural, instructional, and/or programmatic changes, researchers have found that the response to academic change is usually reactive and is viewed in isolation from other forces for change. However, funding agencies will expect a systematic, planned response to change.

A plan for change is not a rigid format that is to be followed as written. The uncertainty, ambiguity, and risk of change dictates the need for the plan to be flexible. A flexible plan is a guide that indicates the direction, benefits, and effects of the change on the setting and the individuals involved.

Change requires hard work, added effort and a commitment to the change. The fact that successful changes must be planned helps to illustrate that change is not an easy endeavor; it does not occur merely because of a decision that is made.

Decision making and organizational structure. Institutional complexity is directly related to size. The larger the institution, the more fragmented the operation becomes. Large institutions must be fragmented into departments because it is impossible for the administrator to direct all aspects of the institution. Fragmentation also means that each part of the institution has different areas of influence. Specialized departments and varied areas of influence create a decentralized decision process.

Although decentralized decision processes are desirable for dealing with established procedures, they cause a major constraint in solving problems in a change effort. Many decisions about problems in a change effort need to be made quickly, but when the decision
processes are decentralized, at least two situations can arise:
(1) time is lost and the implementation process is retarded, and
(2) new problems can occur and go unresolved while deciding on solutions
to earlier problems.

Level of use and leader behavior. Many innovations have been
evaluated as unsuccessful. Levels of use studies have shown that
sometimes evaluation had occurred prematurely. That is, implementors
have not been given enough time to be able to use the innovation to
its fullest.

Some leadership theorists believe the most effective leader is
one who shows equal concern at all times for task and relationship.
Studies conducted by Hersey and Blanchard, in varied organizational
settings, show it is neither feasible nor plausible for a leader to
be equally concerned about task and relationship all the time. Their
studies show that it is the situation in which the leader functions
that influences leader behavior. Situations are composed of: (1) type
of task, (2) time frame in which the task is to be completed, and
(3) the maturity of the followers. The ability of leaders to analyze
the situation and adapt their behavior accordingly is the difference
between an effective and ineffective leader.

Based on the review of literature, the investigator proposes
that situational leadership theory, which is now held by leadership
theorists as the most effective leadership behavior, can work in accord
with the findings from level of use studies. Both level of use and
situational leadership theory are based on a gradual developmental
process of the administrator and staff. As the ability of an
individual to use an innovation increases, the task and relationship structuring behavior of the administrator should decrease. This approach to leadership behavior acknowledges the fact that usage is an individual developmental process. When implementors have achieved a high level of maturity/usage, the leader can allow them to work independently and experiment with ideas of their own.

**Use of communication.** Lack of consensus on educational goals and apprehension on the part of individuals that will be affected are always impediments to change; therefore, two-way communication is necessary. Communication enables prospective implementors to envision the change in operation and how congruent the change is or is not with their goals, interests, roles and relationships. Two-way communication also gives the implementors an opportunity of participating in decisions that will affect their needs. Providing the opportunity to participate is one way to help dissolve resistance and develop commitment to the innovation.

**Reasons for resistance.** Higher education institutions build reputations on tradition. An attempt to change is often seen as experimental and not worth the risk, particularly when traditional practices have proven to be effective in the past. Consequently, academics may see no advantages in innovating and force the innovation to compete with the established territorial rights of individuals and departments.

Territoriality creates many problems for academic change. A major problem is that academics view themselves as independent professionals. The rights granted those working in universities and
colleges reinforces their independence through academic freedom and tenure. The rights also allow the individuals to put up strong resistance to change. For the academic administrator, territoriality becomes a major obstacle to overcome.

**Administrators as advocates.** A strong advocate for change is necessary if academics' resistance to change is to be overcome and the innovation successfully implemented. Part of the advocate's role is to allay the resistance to the innovation by communicating how individuals will benefit in relation to personal goals, interests and more productive roles and relationships.

Observers agree that the administrator's attitude and behavior in initiating and implementing change can be a key variable. Due to the academics' resistance to change, administrators have to be the advocates. They have major responsibility of planning, organizing, and communicating the change. As an advocate it is the job of the leader to recognize and deal with obstacles, orient staff, persuade the opposition, avoid rejection and know the proper timing for compromise.

In summary, there has been little research conducted on the change process in higher education. The existing literature on change in higher education repeatedly identifies the administrator as a key variable in a change effort along with certain organizational factors with which the administrator must deal.

An analysis of the literature identifies the following personal characteristics of the administrator in situ as having a direct impact on the implementation of an innovation in higher education:
1. leadership style;
2. attitude towards innovation in higher education;
3. number of special projects in which the administrator was involved;
4. continuance of administrative leadership during implementation; and
5. the administrator takes responsibility for the implementation of the innovation.

The following organizationally-related factors were identified through the change literature as factors higher education administrators will have to address during the implementation of a change effort:

1. use of sanctions;
2. staff resistance;
3. changes in staff attitudes, behaviors, skills, and relationships;
4. staff involvement; and
5. impact on existing programs.

Based on the review of literature presented in this chapter, the investigator believes there may be relations between certain personal characteristics of administrators in situ in higher education and organizational factors associated with the change process. Therefore, one purpose of this study was to begin to examine the relation between administrative characteristics and organizational factors.

It is suggested also by the literature that the above mentioned personal administrative characteristics and the institutions' ability to effectively implement change may be related to the type of
institution. These findings from the change literature were the basis for the subquestions in the study.
CHAPTER III

METHODOLOGY

Introduction

One purpose of this pilot study was to begin to examine the relationship between characteristics of higher education administrators and organizational factors associated with the change process. Selected measured characteristics of administrators were used as independent variables to predict statistically the organizational factors. The four primary research questions posed in Chapter I are presented here.

1. Is the faculty acceptance of the change as measured by AETER related to:
   (a) the administrator's leadership style(s) as measured by LEAD;
   (b) the administrator's attitude towards innovation in education as measured by IRS;
   (c) the number of other special projects for which the administrator was responsible;
   (d) the changes in administrative leadership during Redesign; and
   (e) whether or not Redesign implementation was the administrator's responsibility?

2. Are administrator's expected changes in faculty roles as measured by AETER related to:
   (a) the administrator's leadership style(s) as measured by LEAD;
   (b) the administrator's attitude towards innovation in education as measured by IRS;
   (c) the number of other special projects for which the administrator was responsible;
   (d) the changes in administrative leadership during Redesign; and
   (e) whether or not Redesign implementation was the administrator's responsibility?
3. Is the use of the organizational reward and sanction system as measured by AETER related to:
   (a) the administrator's leadership style(s) as measured by LEAD;
   (b) the administrator's attitude towards innovation in education as measured by IRS;
   (c) the number of other special projects for which the administrator was responsible;
   (d) the changes in administrative leadership during Redesign; and
   (e) whether or not Redesign implementation was the administrator's responsibility?

4. Is the rated effectiveness of the institution's implementation of Redesign, as measured by a knowledgeable jury, related to:
   (a) the administrator's leadership style(s) as measured by LEAD;
   (b) the administrator's attitude towards innovation in education as measured by IRS;
   (c) the number of other special projects for which the administrator was responsible;
   (d) the changes in administrative leadership during Redesign; and
   (e) whether or not Redesign implementation was the administrator's responsibility?

In order to answer these questions the following procedures were employed.

Population

The population selected for this study consisted of deans of education, heads/directors/chairpersons of teacher education, and professors of teacher education who at the time of the survey had the responsibility of providing direction for the Teacher Education Redesign program in their institution. The titles of the individuals depended on the organizational structure of the institution and their role in it, but they were considered the administrator responsible for Redesign. Names and addresses of the Redesign administrators were obtained from a list provided by the Ohio Department of Education. The procedures for gathering the data are discussed later in this chapter.
Instrumentation

Three questionnaires and a background information sheet were used to gather the information about selected characteristics of administrators in higher education that may have been related to the institutions' implementation of Teacher Education Redesign.

The data were subject to the limitations of data collected by using questionnaires and self-reports. These limitations were: (1) non-returns which could introduce bias in the results, (2) lack of flexibility in responses, and (3) possible misinterpretations of items (Henerson, Morris, and Fitz-Gibbon, 1978; Mouly, 1978).

In spite of the disadvantages in using questionnaires it was the judgment of the investigator that the advantages of such data gathering techniques outweighed the disadvantages. The study involved administrators across the state of Ohio; therefore, mailed questionnaires made it possible for the investigator to contact all Redesign administrators. Second, the questionnaire allowed for uniformity in the items and in the comparability of the responses. Third, because of the amount of data to be collected, questionnaires allowed the respondents time to think about their responses (Henerson et al., 1978; Mouly, 1978). Finally, Mouly points out that "misinterpretations are more likely to occur when the respondent is not equal to the task expected of him" (1978, p. 190). It is highly unlikely that the respondents were not knowledgeable about the topic. The investigator also took precautions to insure that terminology peculiar to Redesign was incorporated into the items. Therefore misinterpretations of items
was expected to be minimal. The question of non-respondent bias is discussed in detail later in this chapter.

The questionnaires employed were: (1) "Administrator's Experience with Teacher Education Redesign" (AETER), (2) Hersey and Blanchard's "Leader Effectiveness and Adaptability Description" (LEAD), (3) Crowley's "Institutional Renewal Scale" (IRS), and (4) a background information sheet.

"Administrator's Experience with Teacher Education Redesign"

The "Administrator's Experience with Teacher Education Redesign" (AETER) questionnaire was developed by the investigator. The questionnaire was originally designed to gather information on an institution's implementation of Redesign in relation to six organizational factors that were associated with the change process: (1) staff resistance, (2) use of sanctions, (3) changes in staff attitudes, behaviors, skills, and relationships, (4) staff involvement, (5) funding, and (6) impact on existing programs.

Content validity. Kerlinger (1973) states that the main question to ask about validity is, "Are we measuring what we think we are measuring?" (p. 457). The items used to construct the AETER questionnaire were drawn from theory and research on change particularly in relation to higher education. They represent in some measure the present understanding of the change process. Their face validity was checked by having competent judges screen and select items.

A panel of five judges was formed. Two of the judges had experience with the Redesign program at the university level. Two of the judges have worked with the forty-eight universities and colleges at
the state level. One of the judges is a professor who is knowledgeable about the Teacher Education Redesign program and the study. All of the judges were knowledgeable about the change process in general.

The judges were interviewed to ascertain aspects of the six organizational factors that would negatively and positively affect the institutions' ability to implement the program. The change literature was also reviewed to identify similar aspects. The information from the interviews and the literature was written into a pool of 112 items.

The items were given to the five judges to critique in four rounds. During the first round they critiqued the items for wording and for clarity. In the second round they were asked to add and/or delete items which were duplications or ambiguous. After the second round the pool of items was reduced to 75.

In the third round the judges were asked to independently sort the 75 items into three stacks: "positive", "negative", and "neutral". Items placed in the positive stack were considered factors that would have positively affected the institutions' ability to implement the program. Items placed in the negative stack were considered as factors which would have a negative effect on the institutions' implementation of Redesign. Items placed in the neutral stack were considered as factors that would have neither a positive or negative effect on the institutions' ability to implement the program. The judges returned their three stacks to the investigator. On a sheet, the investigator tallied the number of times each item was placed in a positive, negative or neutral stack. Where at least four of the five judges agreed that an item indicated either a positive or
negative contribution to institutional effectiveness in Redesign, a satisfactory level of consensus was assumed. Consensus was reached on 35 of the 75 items. The neutral items and items on which there was not consensus were eliminated.

In the final round, the positive (17) and negative (18) items on which the judges reached consensus were returned to them to be ranked. Items most likely to gather information about an institution's experience in redesign were ranked highest and those least likely to gather such information were ranked lowest. The positive and negative items were ranked separately. The positive and negative items were separately weighted as they appeared in each judge's stack. In the positive stack the item at the top was weighted 17 and the one at the bottom was weighted 1. In the negative stack the item at the top was weighted 18 and the one at the bottom was weighted 1. The weights for each item were added. The summed weights were developed into a scale for the negative items and a scale for the positive items. Summed item weights that clustered near the top of the scales were considered most likely to gather significant information about the implementation of Redesign. Thirteen positive items and 15 negative items clustered near the top of the summed weighted scales.

The final questionnaire contained 28 items. The items were randomly assigned to the questionnaire. The response options chosen were "agree" and "disagree". Directions were written for the respondents to circle the option for each item that indicated whether the statement was an accurate description of what happened at their institution.
Factor analysis to estimate the validity of AETER. The AETER questionnaire was originally designed to address the following six organizational factors associated with the change process: (1) staff resistance, (2) use of sanctions, (3) changes in staff attitudes, behaviors, skills, and relationships, (4) staff involvement, (5) funding, and (6) impact on existing program. The items to measure these six organizational factors were arrived at through a literature search and jury analysis. There was no statistical evidence to confirm that any of these organizational factors that were associated with change were measured by AETER before it was administered; therefore, a factor analysis based on the scores of the respondents on the questionnaire was conducted to determine what organizational factors the questionnaire was measuring and validity of the measurement.

The questionnaire was administered to 45 administrators of Redesign. The questionnaire contained 28 items. A factor analysis requires that the population should be two to three times the number of items. Since the investigator was not able to adhere to this requirement there was a caution in interpreting the factor analysis results. However, it was believed that the use of factor analysis was worthwhile because it gave some insight into the structure of the factors. Due to the problems with factor analysis with small populations, only items that loaded at ±.50 or better were used.

An initial extraction of factors was performed to identify the number of factors in the questionnaire and incorporate the items into factors. Factors with eigenvalues less than one and those that did not contribute greatly to the percent of explained variance were
eliminated. Eigenvalues were used as an estimate of the strength of each factor.

To refine the extraction process, the factors with eigenvalues of one or more were subjected to rotation procedures. The rotation procedures forced items to load into the appropriate factors. The change literature suggested there was no reason to assume the factors would be independent of each other; therefore oblique rotation was chosen by the investigator.

Results of the rotation yielded a factor matrix which illustrated the way in which items loaded into each factor. Coefficients of the items in the factors were reviewed to identify the items that were heavily loading into a factor (±.50 or better).

The items on the questionnaire were written originally as positive and negative responses to change. Participants were asked to respond to each item based on whether the item accurately described what happened at their institution. Items that were considered to have indicated a positive response to change were coded so that a response of "agree" was a positive response and a response of "disagree" was a negative response. Items that were considered to have indicated a negative response to change were coded so that a response of "agree" was a negative response and a response of "disagree" was a positive response. The items that were found to be loading the heaviest (±.50 or better) into a factor were used to calculate each factor scale. Positive responses to items were given a weighted value of one. Negative responses to items were given a weighted value of zero. The highest possible score on the factor scale was established for each
factor by adding the weights (one) if an individual had a positive response to all the items in the factor. The respondents' factor score for each factor was calculated by adding the weights of the respondents' positive and negative responses in each factor.

Factor analysis results identified four of the six original organizational factors associated with the change process being measured by AETER. Overall the factor analysis identified five factors.

Factor 1 - Staff resistance

Factor 2 - Change in staff attitudes, behaviors, skills, and relationships

Factor 3 - Use of sanctions; Staff resistance

Factor 4 - Staff involvement

Factor 5 - Staff resistance

The factor analysis results revealed that "Staff Resistance" broke down into three factors. This indicated that three aspects of staff resistance were being measured.

Factor analysis showed that the factors had low relationships to each other. A correlation matrix of the factors is presented in Table 1.

<table>
<thead>
<tr>
<th></th>
<th>FACTOR 1</th>
<th>FACTOR 2</th>
<th>FACTOR 3</th>
<th>FACTOR 4</th>
<th>FACTOR 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTOR 1</td>
<td>1.00</td>
<td>.11</td>
<td>.13</td>
<td>.17</td>
<td>-.19</td>
</tr>
<tr>
<td>FACTOR 2</td>
<td>.11</td>
<td>1.00</td>
<td>-.06</td>
<td>-.00</td>
<td>-.03</td>
</tr>
<tr>
<td>FACTOR 3</td>
<td>.13</td>
<td>-.06</td>
<td>1.00</td>
<td>.26</td>
<td>-.18</td>
</tr>
<tr>
<td>FACTOR 4</td>
<td>.17</td>
<td>-.00</td>
<td>.26</td>
<td>1.00</td>
<td>-.19</td>
</tr>
<tr>
<td>FACTOR 5</td>
<td>-.19</td>
<td>-.03</td>
<td>-.18</td>
<td>-.19</td>
<td>1.00</td>
</tr>
</tbody>
</table>
An examination of the items that loaded into each factor indicated a need to rename the organizational factors with more specific labels. With the assistance of an individual who was knowledgeable about the change process, the investigator renamed the organizational factors. The five organizational factors identified through factor analysis in relation to the original organizational factors are presented in Table 2.

### Table 2

<table>
<thead>
<tr>
<th>FACTOR ANALYSIS FACTORS</th>
<th>ORIGINAL FACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Acceptance of Change</td>
<td>Staff Resistance</td>
</tr>
<tr>
<td>Administrator's Expected Changes in Faculty Roles</td>
<td>Changes in Staff Attitudes, Behaviors, Skills, and Relationships</td>
</tr>
<tr>
<td>Organizational Reward and Sanction System</td>
<td>Use of Sanctions; Staff Resistance</td>
</tr>
<tr>
<td>Dissemination of Information</td>
<td>Staff Involvement</td>
</tr>
<tr>
<td>Tenured and Senior Staff Support of the Change</td>
<td>Staff Resistance</td>
</tr>
</tbody>
</table>

In examining the eigenvalues and percent of variance accounted for, the three organizational factors posed in the research questions accounted for 58% of the variance in the questionnaire. These data are depicted in Table 3.

The factors, the factor items, and the factor item loadings are presented in Table 4.
### TABLE 3

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>EIGENVALUES</th>
<th>PERCENT OF VARIANCE ACCOUNTED FOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Acceptance of Change</td>
<td>4.4</td>
<td>26.6</td>
</tr>
<tr>
<td>Administrator's Expected Changes in Faculty Roles</td>
<td>3.3</td>
<td>20.1</td>
</tr>
<tr>
<td>Organizational Reward and Sanction System</td>
<td>1.9</td>
<td>11.4</td>
</tr>
</tbody>
</table>

### TABLE 4

**ORGANIZATIONAL FACTORS ASSOCIATED WITH THE CHANGE PROCESS, FACTOR ITEMS AND FACTOR LOADINGS**

<table>
<thead>
<tr>
<th>FACTOR AND FACTOR ITEMS</th>
<th>FACTOR LOADINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Faculty Acceptance of Change</td>
<td></td>
</tr>
<tr>
<td>A. Teacher education faculty had difficulty accepting the Redesign program.</td>
<td>-.90</td>
</tr>
<tr>
<td>B. Teacher education faculty had difficulty accepting the Redesign program because it was mandated from outside the institution.</td>
<td>-.88</td>
</tr>
<tr>
<td>2. Administrators' Expected Changes in Faculty Roles</td>
<td></td>
</tr>
<tr>
<td>A. The role of members of the teacher education faculty changed based on their abilities and skills to adapt to the needs of the redesign effort.</td>
<td>.60</td>
</tr>
<tr>
<td>B. Members of the teacher education faculty were not expected to change their attitudes about teacher education.</td>
<td>-.66</td>
</tr>
<tr>
<td>C. Members of the teacher education faculty were not expected to develop new skills to implement the Redesign program.</td>
<td>-.63</td>
</tr>
</tbody>
</table>
3. Organizational Reward and Sanction System

A. The institution's reward system is based on research, not the effort to redesign the teacher education program. 

B. In order to implement the Redesign program some type of formal or informal sanctions were employed internally to assure participation by faculty members.

C. The main resistance to the Redesign program came because of the desire not to change on the part of the members of the teacher education faculty.

D. Resistance to change did more to impede the redesign effort than did philosophical differences.

Reliability of AETER. Mouly defines instrument reliability as the ability of an instrument to "measure consistently whatever it measures" (1978, p. 74). Cronbach's Alpha Coefficient was the statistical technique employed to obtain the reliability of this questionnaire and the other two questionnaires. Alpha produces the mean correlation for each item with every other item. Alpha then can be thought of as the mean of all possible split-half reliability coefficients.

Following the factor analysis, reliability coefficients were obtained for the 28 items in the questionnaire and the three factors identified through the factor analysis.

The Alpha for the 28 items on the questionnaire was .08. The extremely low reliability coefficient was expected because the questionnaire was designed to be multidimensional. Another Alpha was calculated on the items included in the five factors. The Alpha for the items included in the final scale was .57. A final Alpha was
computed for the three factors with their items. The Alpha for each factor is presented in Table 5.

**TABLE 5**

**RELIABILITY OF THE FACTORS IN AETER**

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>ALPHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Faculty Acceptance of Change</td>
<td>.88</td>
</tr>
<tr>
<td>2. Administrator's Expected Changes in Faculty Roles</td>
<td>.62</td>
</tr>
<tr>
<td>3. Organizational Reward and Sanction System</td>
<td>.61</td>
</tr>
</tbody>
</table>

The above three factors comprised three of the four dependent variables used in the multiple regression analysis.

"Leader Effectiveness and Adaptability Description"

Hersey and Blanchard's "Leader Effectiveness and Adaptability Description" (LEAD) was designed to measure an individual's leadership style(s) and effectiveness (the ability of an individual to analyze a situation and use the appropriate leadership behavior). The underlying theory of the LEAD questionnaire was discussed in the review of literature in Chapter II.

The questionnaire contains twelve situation items and four alternative responses for each item. Each alternative response represents one of four leadership behaviors (high task-low relationship, high task-high relationship, high relationship-low task, low task-low relationship) with only one of the responses being appropriate for the situation presented. Therefore three of the situation items were designed to measure whether an individual would appropriately use high
task–low relationship, three items if he/she would appropriately use high task–high relationship, three items if he/she would appropriately use high relationship–low task, and three items if an individual knew when to appropriately use low task–low relationship.

The directions were written so that the respondents focused on one frame of reference; in this case it was Teacher Education Redesign. The twelve items were written as possible situations an administrator might confront. Each item had four alternative behaviors that represented each of the four leadership styles in the theory. The administrator was asked to circle the alternative that would best describe his/her behavior in the situation, keeping in mind the frame of reference. The questionnaire takes about ten minutes to complete.

Scores on the LEAD questionnaire were used to identify three aspects of an administrator's behavior. One score indicated the leader's style range which could be one or more of the four styles identified by Hersey and Blanchard: high task and low relationship, high task and high relationship, high relationship and low task, and low task and low relationship. If an individual's style range had two or more styles, the individual's dominant and supportive leadership styles could be identified. A final score indicated the administrator's effectiveness (1977). For the purpose of this study only the leadership style scores were used.

The questionnaire was originally standardized using data from a sample of 264 managers across North America. Thirty percent were at the entry level; 55% were at the middle level; 15% were at a high level of management. Their ages ranged from 21 to 64 (Greene, 1980).
The stability of the LEAD was found to be moderately strong. After two administrations in a six-week period, 75% of the managers retained their dominant style and 71% retained their supportive style(s). Greene (1980) reports:

[T]he contingency coefficients were both .71 and each was significant (p < .01). . . . The LEAD scores remained relatively stable across time, and the user may rely upon the results as consistent measures.

Based on further validity studies demographic variables of sex, age, years experience, degree and level of management showed low correlations with the style scores. The low correlation suggested the scale was independent of those variables. "Satisfactory results were reported supporting the four style dimensions of the scale using a modified approach to factor analysis." The items were found to be measuring the leadership style they were expected to measure. "In 46 of the 48 item options (96%), the expected relationship was found" (Greene, 1980).

LEAD was designed to measure administrators' leadership style(s), range and their ability to effectively analyze a situation to adapt their behavior accordingly. For the purpose of this study reliability coefficients were computed on the leadership style scores. Leadership style scores were the only scores from the questionnaire used as independent variables.

Cronbach’s Alpha Coefficients were calculated for LEAD following the administration of the questionnaire to the population in the study. The Alpha for the three questionnaire items that were to measure high task-low relationship leadership style was .55. When one item was
deleted from the set of items that measure the style, Alpha equaled .68. The reliability coefficient for the three items that were designed to measure high task-high relationship leadership style was .14. When one item was deleted from the set of items, that measure high task-high relationship Alpha equaled .63. The Alpha for the three items that were designed to measure low task-high relationship style was .53. Alpha did not increase when any of the items were deleted from this set of items. The reliability coefficient for the set of three items to measure low task-lor relationship leadership style was .22. When one item was eliminated the Alpha of the two remaining items was .52. Based on the results of the Alpha coefficient tests, the scores on nine of the twelve items were used in the multiple regression analysis.

Items were deleted for two reasons: (1) some items appeared to be ambiguously related to the Teacher Education Redesign situation, and (2) deletion of the three items increased the reliability of the instrument for this population. Based on the Alpha computations and the way respondents responded to the items, the investigator decided to use 9 of the 12 items. This change in the number of items seemed reasonable because it enhanced the reliability of the instrument and removed ambiguous items.

"Institutional Renewal Scale"

Crowley's "Institutional Renewal Scale" (IRS) is an eight-item scale designed to measure whether an educator has a favorable or unfavorable attitude towards innovation in education. Scores on this questionnaire were used as one of the independent variables in the multiple regression analysis.
A number of different groups of secondary school teachers participated in the development of the IRS. Crowley concludes that the questionnaire distinguished between a group of known innovators and a group of non-innovators. Scores on the IRS correlate with scores from attitudinal scales in the change literature. IRS scores also suggest that the eight items are related to characteristics of innovators (1976).

A Cronbach's Alpha reliability coefficient was computed for this questionnaire based on data gathered from the respondents in the study. The reliability coefficients for the eight items on the IRS questionnaire was .59. However, when the first two items on the questionnaire were deleted the Alpha was .84. The items deleted were: (1) "I am indifferent to the pros and cons about educational innovations but would not like to see my attitude become general," and (2) "There is a need to innovate but I do not find what I want in most current educational innovations." Further use of IRS in the multiple regression analyses included scores on six items.

**Background Information Sheet**

A background information sheet was prepared to gather information about the respondents and their institutions (see Appendix A). The information was essential for providing contextual information about the administrators and their institutions. These items included, among others, the administrators': sex, age, tenure status, highest earned degree, and number of years at the institution. The organizational structure of the education program in the institution and the type of institution comprised the institutional information gathered. Data
from the background information sheet were also used as three of the five independent variables in the four primary research questions and one of the subquestions. These items were: (1) number of other special projects for which the administrator was responsible, (2) the changes in administrative leadership during redesign, and (3) whether or not Redesign implementation was the administrator's responsibility. In addition, to answer the subquestions information about the "type of institutions" was used.

**Rated Effectiveness of Institutions' Implementation of Redesign**

The final dependent variable was the rated effectiveness of the institutions' implementation of Redesign. This dependent variable was measured by a jury whose members were knowledgeable about the implementation of Redesign in all the institutions. The Ohio Department of Education is in the process of formally evaluating the institutions' implementation of Redesign. Therefore at this time there was no formal documented evaluation available. Through this variable the investigator attempted to address the impact Teacher Education Redesign has had on the existing teacher education program.

The rated effectiveness of institutions' implementation of Redesign was judged on a three-point scale. The criteria defining the scale were developed by the jury doing the rating and were articulated as follows:

1. **Excellent implementation**: the institution met the spirit and letter of the Redesign standards.
2. **Average implementation**: the institution met the letter of the Redesign standards but not the spirit.
3. Poor implementation: the spirit of the standards was not met by the institution and the letter of the standards were barely met.

The jury met with the investigator. Each juror was given a list with names of the institutions involved in the study. The jurors discussed each institution's implementation of Redesign in relation to the criteria. Through discussion they reached consensus on whether the institution's Redesign program would be considered an "excellent", average", or "poor" implementation with respect to the spirit and letter of the standards. The categories were analyzed in relation to the types of institutions in the study.

Data Gathering Procedures

The names and addresses of the administrators of Redesign were obtained from the State of Ohio Department of Education. The prospective participants were mailed a letter written by the investigator and personally addressed to them. The letter was signed by the investigator and her academic adviser. The letter contained a brief explanation of the study and the time involved, told why they had been selected for the study, and encouraged them to participate. (See Appendix B.)

The participants were asked to return an enclosed postcard to indicate whether or not they were willing to participate. If participants believed they were not the appropriate person to participate or that someone else along with themselves should be contacted by the investigator, they were asked to recommend the person on the postcard. A letter and postcard were then mailed to the recommended person.
Letters and postcards were coded to assure anonymity and to enable the investigator to identify non-respondents.

Within two weeks after they returned the postcard, the questionnaires were mailed to the respondents who had indicated their willingness to participate. Another brief explanation of the study was enclosed. The questionnaires were coded with the code number used to identify the respondents' postcard. Again the code number enabled the investigator to identify non-respondents. At the same time, those who had not returned their postcard received a follow-up letter with the questionnaires enclosed.

Three weeks after the first mailing a follow-up postcard was sent to all the respondents requesting those who had not returned the questionnaire to do so. Of the 50 administrators asked to participate, 45 returned all four questionnaires.

Data Analysis

The statistical treatment of the data employed the Statistical Package for the Social Sciences (SPSS). Descriptive and inferential statistics were used to analyze the data. The following techniques were employed in the analysis: (1) computations of selected basic descriptive statistics, (2) multiple regression analysis, and (3) Chi-square test. The statistical techniques employed are explained below.

Basic Descriptive Statistics

Frequency counts were developed for each participant's response to items on the three questionnaires (AETER, LEAD, and IRS) and the background information sheet. Frequency counts yielded an overview of
the participants' response on each item and enabled the investigator to check for out of range codes and key punch errors.

Basic descriptive statistics (i.e., frequencies, percentages, means, modes) were used to develop descriptive tables and graphs of the population data. Tables and graphs were constructed to describe personal characteristics of the administrators and characteristics of the institutions.

The set of personal characteristics of administrators taken from the background information sheet included sex, age, highest earned degree, number of years at the institution, tenure status, position, changes in administrative leadership during redesign, administrator responsibility for Redesign, and the number of special projects in which the administrator was involved. Other personal characteristics were the administrator's attitude towards innovation in education as measured by IRS and leadership style(s) of the administrators as measured by LEAD.

The two characteristics that described the institutions were:
(1) organizational structure of education within the institution, and
(2) the type of institution.

Cross tabular tables were developed using the set of personal characteristics in relation to the type of institution. These tables were developed to see whether the characteristics of administrators varied systematically in the three types of institutions involved in the study. Included in the tables were all the personal characteristics data from the background information sheet, the administrators' leadership styles as measured by LEAD, and the administrators'
attitude towards innovation in education as measured by IRS.

A frequency and percentage table was developed to depict the rated effectiveness of the institutions' implementation of Redesign. A cross tabular table was also constructed to describe the rating of the institutions' implementation of Redesign in relation to the type of institution.

Multiple Regression Analysis

Multiple regression analysis is usually employed with interval data. Nominal data, employed in multiple regression analysis, are coded as dummy variable. In this study the nominal data were numerically coded to establish a sense of interval variables. The scores have no meaning other than that they identify categories in a variable (SPSS, 1975). The level of measurement of the four dependent variables and the five independent variables are indicated in Table 6.

TABLE 6

LEVEL OF MEASUREMENT FOR VARIABLES IN THE STUDY

<table>
<thead>
<tr>
<th>DEPENDENT VARIABLES</th>
<th>LEVEL OF MEASUREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organizational factors associated with the change process:</td>
<td></td>
</tr>
<tr>
<td>a. Faculty acceptance of change</td>
<td>interval</td>
</tr>
<tr>
<td>b. Administrator's expected changes in faculty roles</td>
<td>interval</td>
</tr>
<tr>
<td>c. Organizational reward and sanction system</td>
<td>interval</td>
</tr>
<tr>
<td>2. Rated effectiveness of institutions' implementation of Redesign</td>
<td>interval</td>
</tr>
</tbody>
</table>
Table 6 (continued)

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLES</th>
<th>LEVEL OF MEASUREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Attitude towards innovation</td>
<td>interval</td>
</tr>
<tr>
<td>2. Leadership styles</td>
<td>nominal</td>
</tr>
<tr>
<td>3. Number of other special projects for which the administrator was responsible</td>
<td>interval</td>
</tr>
<tr>
<td>4. Changes in administrative leadership during Redesign</td>
<td>nominal</td>
</tr>
<tr>
<td>5. Whether or not Redesign implementation was the administrator's responsibility</td>
<td>nominal</td>
</tr>
</tbody>
</table>

To answer the four primary research questions, an attempt was made to determine which independent variables were the best predictors of the dependent variables. Multiple regression analysis was used because it was assumed that more than one independent variable would contribute to the prediction of the dependent variable. A series of multiple regression analyses were used.

The research questions were written as hypotheses about potential relationships between the dependent and independent variables. The five independent variables were used as a set of variables in each equation.

The four research questions are listed below as predictive equations. The definitions of the variables follow the equation.

Equation I: \[ \text{FAC} = \text{LEAD} + \text{IRS} + \text{NSP} + \text{CAL} + \text{AR}, \]

where \( \text{FAC} \) = faculty acceptance of change, \( \text{LEAD} \) = leadership style(s), \( \text{IRS} \) = attitude towards innovation in education, \( \text{NSP} \) = number of other special projects, \( \text{CAL} \) = changes in administrative leadership, and \( \text{AR} \) = administrator responsibility for Redesign.
Equation II: \[ \text{ECR} = \text{LEAD} + \text{IRS} + \text{NSP} + \text{CAL} + \text{AR} \]

where \( \text{ECR} \) = expected changes in faculty roles, \( \text{LEAD} \) = leadership style(s), \( \text{IRS} \) = attitude towards innovation in education, \( \text{NSP} \) = number of other special projects, \( \text{CAL} \) = changes in administrative leadership, and \( \text{AR} \) = administrator responsibility for Redesign.

Equation III: \[ \text{ORSS} = \text{LEAD} + \text{IRS} + \text{NSP} + \text{CAL} + \text{AR} \]

where \( \text{ORSS} \) = organizational reward and sanction system, \( \text{LEAD} \) = leadership style(s), \( \text{IRS} \) = attitude towards innovation in education, \( \text{NSP} \) = number of other special projects, \( \text{CAL} \) = changes in administrative leadership, and \( \text{AR} \) = administrator responsibility for Redesign.

Equation IV: \[ \text{RATED} = \text{LEAD} + \text{IRS} + \text{NSP} + \text{CAL} + \text{AR} \]

where \( \text{RATED} \) = rated effectiveness of the institutions' implementation of Redesign, \( \text{LEAD} \) = leadership style(s), \( \text{IRS} \) = attitude towards innovation in education, \( \text{NSP} \) = number of other special projects, \( \text{CAL} \) = changes in administrative leadership, and \( \text{AR} \) = administrator responsibility for Redesign.

Beta coefficients were developed to obtain an estimate of the partial correlation of each independent variable with its dependent variable. The partial correlation illustrated the strength and direction of the relation of each independent variable with its dependent variable when the other independent variables in the equation were controlled for.

F-test scores were computed for each equation. One F-test score illustrated the significance level of the equation. Another set of F-test scores were computed to yield a significance level for each independent variable in the equation. When \( N=45 \), the number of
respondents, F-test scores equal to or greater than 1.7 indicate statistical significance at the .05 level (Lewis-Beck, 1980). F-test scores were considered significant if they equaled 1.7 or more.

Statistical Procedures for Subquestions

The two subquestions for the study were:

1. Is there a statistically significant relationship between the type of institution and:
   (a) the administrator's leadership style(s) as measured by LEAD;
   (b) the administrator's attitude towards innovation in education as measured by IRS;
   (c) the number of other special projects for which the administrator was responsible;
   (d) the changes in administrative leadership during Redesign; and
   (e) whether or not Redesign implementation was the administrator's responsibility?

2. Is there a statistically significant relationship between the rated effectiveness of the institutions' implementation of Redesign and the type of institution?

Analysis of the literature on higher education indicates that the type of institution can have a significant effect on the organizational factors associated with change. For this reason the subquestion 1, a-e was posed. Chi-square was employed to determine whether there were any statistically significant relationships between the administrator's characteristics (independent variables) and the type of institutions. In addition a Chi-square test was conducted to determine if a statistically significant relation existed between the type of institution and the rated effectiveness of the institutions' implementation of Redesign.

The "Chi-square test is only used with measures which place cases into categories" (Henerson et al., 1978, p. 122). For the
purposes of the subquestions analyses it seemed reasonable to divide the interval measures into two nominal categories. For those variables measured on an interval scale the median was used as the dividing point to convert them into nominal measures. The median was used because it indicated the exact point on the variable scale that divided the scale in half.

The results of all of these analyses are summarized in Chapter IV.
CHAPTER IV
ANALYSIS OF DATA

Introduction

This chapter is organized into five sections to report the findings based on the participants' responses on "Administrator's Experience with Teacher Education Redesign" (AETER), "Institutional Renewal Scale" (IRS), "Leader Effectiveness and Adaptability Description" (LEAD), and the background information sheet.

The first section presents selected characteristics of the 45 administrators of Teacher Education Redesign who responded to the questionnaire and selected characteristics of their institutions. The second section discusses the characteristics of the respondents in relation to the type of institution. Section three presents the rated effectiveness of the institutions' implementation of Redesign in relation to the type of institutions. The fourth section discusses the results of the multiple regression analysis used to answer the four primary research questions. The final section contains the results of the Chi-square test employed to answer the two subquestions. In reporting the results, percentages are followed in parentheses by the number of respondents.

Characteristics of Administrators and Their Institutions

Data on the characteristics of the 45 administrators of Redesign and demographic data of the institutions are presented in this section.

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These data are based on responses given by the participants on three of the four data gathering instruments: IRS, LEAD, and the background information sheet.

Sex, Age, Highest Earned Degree

Females comprised 24.4% (11) of the respondents and 75.6% (34) were male.

The age distribution of the population is shown in Figure 3. Nine percent (4) were below age 39 and 9% (4) over 60; the others were evenly distributed among the forties and fifties.

Ninety-one percent (41) of the respondents had earned doctorates. Slightly less than 7% (3) had Master's and one respondent's highest earned degree was Education Specialist. These data are presented in Figure 4.

Number of Years at Institution, Tenure Status, Position

The number of years the respondents were affiliated with their institution ranged from 1 to 26 years. The mean number of years for respondents to have been affiliated with the institution was 12 years. More specific data concerning the number of years administrators had been affiliated with their institution are presented graphically in Figure 5.

Approximately 84% (38) of the respondents were tenured and 16% (7) were non-tenured.

Of the 45 respondents 31.1% (14) of the respondents were deans, 62.2% (28) of the respondents' position were chairperson/director/department head of Education, and 6.7% (3) were professors.
Figure 3. Age of Respondents

\[
\bar{X} = 49.9
\]
Figure 4. Highest Earned Degree of Respondents
Figure 5. Number of Years Respondents Are Affiliated with Their Institution
Administrative Change, Administrator's Responsibility, Other Special Projects

When respondents were asked if there had been changes in the administrative leadership of the Redesign program, 44.4% (20) indicated there had been no change in administrative leadership and 55.6% (25) respondents indicated there had been a change.

Approximately 62% (28) of the respondents indicated that they considered the implementation of Redesign their responsibility and approximately 38% (17) indicated they did not consider the implementation of Redesign their responsibility.

A special project was defined as any activity that was not part of the standard operating procedures of the institutions. The Redesign program was considered a special project during its initiation and implementation phases. The respondents were asked to indicate the number of additional special projects in which they were involved while they were administering the implementation of Teacher Education Redesign. The number of other special projects in which an administrator was involved ranged from 0 to 17. The mean number of other special projects for the respondents was 2.4. These data are presented in Table 7.

<table>
<thead>
<tr>
<th>NUMBER</th>
<th>FREQUENCY</th>
<th>PERCENT OF RESPONDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>13</td>
<td>28.9</td>
</tr>
<tr>
<td>1</td>
<td>10</td>
<td>22.2</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>15.6</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>8.9</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>6.7</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>6.7</td>
</tr>
<tr>
<td>6 or more</td>
<td>5</td>
<td>11.0</td>
</tr>
</tbody>
</table>
Respondents' Leadership Styles

The dominant leadership style of the administrators of Teacher Education Redesign was determined by LEAD. The four types of leadership styles that could be identified by the questionnaire were: high task-low relationship; high task-high relationship; high relationship-low task; low task-low relationship. These styles and the theory on which they were based have been explained in Chapter II.

Of the 45 administrators 4.4% (2) had a dominant leadership style of high task-low relationship. High task-high relationship was the dominant style of 66.7% (30). Approximately 17.8% (8) of the respondents had a high relationship-low task dominant style. Approximately 8.9% (4) of the respondents had dominant leadership styles which were a combination of high task-high relationship and high relationship-low task. Another 2.2% (1) had a combination dominant leadership style of high task-high relationship and high task-low relationship. These data are presented in Table 8.

<table>
<thead>
<tr>
<th>DOMINANT STYLE</th>
<th>NUMBER OF RESPONDENTS</th>
<th>PERCENT OF RESPONDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Task - Low Relationship</td>
<td>2</td>
<td>4.4</td>
</tr>
<tr>
<td>High Task - High Relationship</td>
<td>30</td>
<td>66.7</td>
</tr>
<tr>
<td>High Relationship - Low Task</td>
<td>8</td>
<td>17.8</td>
</tr>
<tr>
<td>Low Task - Low Relationship</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>High Task - High Relationship/High Relationship - Low Task</td>
<td>4</td>
<td>8.9</td>
</tr>
<tr>
<td>High Task - High Relationship/High Task - Low Relationship</td>
<td>1</td>
<td>2.2</td>
</tr>
</tbody>
</table>
IRS Scores of Respondents

The IRS was designed to measure an individual's attitude towards innovation in education. The scale values range from 6 (very favorable) to 36 (very unfavorable). The scale was divided into five intervals to represent five levels of attitude towards innovation in education. A score of 6 to 11 on the scale represented a "very favorable" attitude towards innovation in education, 12 to 17 indicated a "quite favorable" attitude, 18 to 23 represented "about equally favorable and unfavorable" attitude, 24 to 29 indicated a "quite unfavorable" attitude, and a score of 30 to 36 represented a "very unfavorable" attitude towards innovation in education.

Of the 45 respondents 18% (8) were very favorable towards innovation in education, 38% (17) were quite favorable, 40% (18) were about equally favorable and unfavorable towards innovation in education, 2% (1) were quite unfavorable and 2% (1) were very unfavorable. These data are presented in Table 9.

TABLE 9
LEVEL OF RESPONDENTS' ATTITUDES TOWARD INNOVATION IN EDUCATION

<table>
<thead>
<tr>
<th>ATTITUDE LEVEL</th>
<th>FREQUENCY</th>
<th>PERCENT OF RESPONDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Favorable</td>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td>Quite Favorable</td>
<td>17</td>
<td>38</td>
</tr>
<tr>
<td>About Equal</td>
<td>18</td>
<td>40</td>
</tr>
<tr>
<td>Quite Unfavorable</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Very Unfavorable</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
Organizational Structure and Type of Institution

The responses of the 45 administrators represented responses from 43 different institutions.

Approximately 28% (12) of the 43 institutions were organized as colleges of education, 14% (6) were organized as divisions, 51.1% (22) were organized as departments and 7% (3) were organizationally structured as schools or programs. These data are depicted in Figure 6.

The 43 institutions involved in the study were of one of three types of institutions of higher education: 27.9% (12) were public universities, 16.3% (7) were private universities, and 55.8% (24) were private liberal arts colleges.

Summary of Characteristics of Administrators and Institutions

More than 75% (34) of the respondents were male. The mean age of the participants was 50. Over 90% (41) of the administrators had earned doctorates.

The average number of years for respondents to have been affiliated with the institution was 12 years. More than half (28) of the respondents' reported positions were heads, chairpersons, or directors of Teacher Education. Approximately 16% (7) of the administrators were not tenured.

A little more than half (25) of the respondents reported a change in the administrative leadership of Redesign at their institution. The implementation of Redesign was considered the responsibility of over 60% (28) of the participants. Twenty-nine percent (13) of the respondents were not involved in other special projects while implementing Redesign. The other 71% (32) were involved in anywhere from
Figure 6. Organizational Structure of Education in the Institutions
1 to 17 special projects while implementing Redesign.

Approximately 66% (30) of the administrators had a dominant leadership style of high task-high relationship. The other less prevalent styles included: 4.4% (2) having a dominant style of high task-low relationship; 17.7% (8) having a dominant style of high relationship-low task; 8.8% (4) having a combined dominant style of high task-high relationship and high relationship-low task; and 2.2% (1) having a combined dominant style of high task-high relationship and high task-low relationship.

A little more than half (25) of the administrators tend to have a very or quite favorable attitude towards innovation in education. Forty percent (18) of the participants were equally favorable and unfavorable towards innovation in education. Unfavorable attitudes toward innovation in education comprised 4% (2) of the population as measured by IRS.

Slightly more than half (22) of the institutions were organized as departments of education. The remainder were: colleges, divisions, schools and programs. A little more than 55% (24) of the institutions involved were private liberal arts colleges. The remainder were public and private universities.

Type of Institutions and Characteristics of Respondents

This section presents the reported characteristics of the administrators in relation to the type of their institution. Presented also are the characteristics of the administrators' attitudes toward innovation in education, and their dominant leadership style(s).
Public Universities

Of the 13 administrators in public universities 53.8% (7) were male and 46.2% (6) were female. The mean age of these administrators was 46.2 years. All of these administrators had doctorates.

The mean number of years these respondents were affiliated with their institution was 9.3 years. Twenty-three percent (3) of these 13 Teacher Education Redesign administrators were not tenured; 76.9% (10) were tenured. Most, or 84.6% (11), of the respondents in this group were deans.

Of the 13 respondents 77% (10) reported a change in the administrative leadership of the Redesign program at their institution. Approximately 69.2% (9) of the respondents indicated that they considered the implementation of Redesign as their responsibility. The degree to which these administrators were involved in special projects while implementing Redesign ranged from: 38.4% (5) involved in no other special projects to 15.4% (2) involved in 6 or more projects.

More specific data on the characteristics of respondents in public universities are presented in Table 10.

Fifty-four percent (7) of the administrators had attitudes toward innovation in education that were very or quite favorable. Thirty-eight percent (5) of the administrators' attitudes were equally favorable and unfavorable. Another 8% (1) had an unfavorable attitude towards innovation in education as measured by IRS.

Seventy-seven percent (10) of the administrators in public universities had a dominant leadership style of high task-high relationship as measured by LEAD.
## TABLE 10
REPORTED CHARACTERISTICS OF Respondents IN PUBLIC UNIVERSITIES

<table>
<thead>
<tr>
<th>(N=13)</th>
<th>NUMBER</th>
<th>PERCENT OF RESPONDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex:</td>
<td>Male</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>6</td>
</tr>
<tr>
<td>Age:</td>
<td>35-39</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>40-44</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>45-49</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>50-54</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>55-59</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>60 or above</td>
<td>0</td>
</tr>
<tr>
<td>Highest Earned Degree:</td>
<td>Master's</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Doctorate</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>0</td>
</tr>
<tr>
<td>Years at Institution:</td>
<td>1-3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4-6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>7-9</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>10-12</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>13-15</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>16-18</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>19 or more</td>
<td>0</td>
</tr>
<tr>
<td>Tenured:</td>
<td>Yes</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>Position:</td>
<td>Dean</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Head/Chair/</td>
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</tr>
<tr>
<td></td>
<td>Director</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Professor</td>
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</tr>
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<td>Administrative Change:</td>
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<tr>
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<td>Administrator Responsibility:</td>
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<tr>
<td></td>
<td>6 or more</td>
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</table>
More specific data on these measured characteristics of administrators in public universities are presented in Table 11.

TABLE 11
MEASURED CHARACTERISTICS OF ADMINISTRATORS IN PUBLIC UNIVERSITIES

<table>
<thead>
<tr>
<th>IRS:</th>
<th>NUMBER</th>
<th>PERCENT OF RESPONDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Favorable</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>Quite Favorable</td>
<td>5</td>
<td>38.4</td>
</tr>
<tr>
<td>About Equal</td>
<td>5</td>
<td>38.4</td>
</tr>
<tr>
<td>Quite Unfavorable</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Very Unfavorable</td>
<td>1</td>
<td>7.7</td>
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</table>

Dominant Leadership Style:

<table>
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<tr>
<th></th>
<th>NUMBER</th>
<th>PERCENT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>High Task-Low Relationship</td>
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<tr>
<td>High Task-High Relationship</td>
<td>10</td>
<td>76.9</td>
<td></td>
</tr>
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<td>7.7</td>
<td></td>
</tr>
<tr>
<td>High Task-High Relationship High Relationship-Low Task</td>
<td>1</td>
<td>7.7</td>
<td></td>
</tr>
<tr>
<td>High Task-High Relationship High Task-Low Relationship</td>
<td>1</td>
<td>7.7</td>
<td></td>
</tr>
</tbody>
</table>

Private Universities

Eight participants were affiliated with private universities. In the private universities 87.5% (7) of the administrators were male and 12.5% (1) was female. The mean age of the administrators was 52.6 years. One individual's highest earned degree was a Master's. The other seven respondents (87.5%) reported having earned doctorates.

The mean number of years the administrators were associated with the institution was 14. Approximately 87.5% (7) of the administrators were tenured. Seventy-five percent (6) of the administrators were
head/chairperson/director of teacher education, one participant was a dean and another was a professor.

Of the eight administrators in private universities 37.5% (3) reported no change in the administrative leadership of Redesign and 62.5% (5) of the respondents reported a change in administrative leadership. The implementation of Redesign was considered the responsibility of 75% (6) of the respondents. The other 25% (2) of the respondents did not consider the implementation of Redesign their responsibility. Fifty percent (4) of the participants were involved in two other special projects while implementing Redesign, 25% (2) were not involved in other special projects, 12.5% (1) was involved in four special projects, and another 12.5% (1) was involved in five special projects.

The preceding data and some more specific data on the characteristics of respondents in private universities are presented in Table 12.

Thirty-eight percent (3) of the private university administrators had a favorable attitude towards innovation in education as measured by IRS. Sixty-three percent (5) of the administrators had an attitude that was equally favorable and unfavorable. Seventy-five percent (6) of the administrators had a high task-high relationship leadership style as measured by LEAD.

More specific data on attitudes toward innovation and leadership styles of the administrators in private universities are presented in Table 13.
<table>
<thead>
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</tr>
<tr>
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<td>87.5</td>
</tr>
<tr>
<td>Female</td>
<td>1</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Age:</strong></td>
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<td></td>
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<tr>
<td>35-39</td>
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<td>40-44</td>
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<td>55-59</td>
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<tr>
<td>60 or above</td>
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<td>0.0</td>
</tr>
<tr>
<td><strong>Highest Earned Degree:</strong></td>
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<td></td>
</tr>
<tr>
<td>Master's</td>
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<td>12.5</td>
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<tr>
<td>Doctorate</td>
<td>7</td>
<td>87.5</td>
</tr>
<tr>
<td>Other</td>
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<td>0.0</td>
</tr>
<tr>
<td><strong>Years at Institution:</strong></td>
<td></td>
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<td>19 or more</td>
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<td></td>
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<tr>
<td>Yes</td>
<td>7</td>
<td>87.5</td>
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<tr>
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<td>1</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Position:</strong></td>
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<td></td>
</tr>
<tr>
<td>Dean</td>
<td>1</td>
<td>12.5</td>
</tr>
<tr>
<td>Head/Chair/ Director</td>
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<td>75.0</td>
</tr>
<tr>
<td>Professor</td>
<td>1</td>
<td>12.5</td>
</tr>
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<td>3</td>
<td>37.5</td>
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<td><strong>Administrator Responsibility:</strong></td>
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<td><strong>Number of Special Projects:</strong></td>
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<td></td>
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</tr>
<tr>
<td>6 or more</td>
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## TABLE 13
MEASURED CHARACTERISTICS OF ADMINISTRATORS IN PRIVATE UNIVERSITIES

<table>
<thead>
<tr>
<th>IRS:</th>
<th>NUMBER</th>
<th>PERCENT OF RESPONDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Favorable</td>
<td>1</td>
<td>12.5</td>
</tr>
<tr>
<td>Quite Favorable</td>
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<td>25.0</td>
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<tr>
<td>About Equal</td>
<td>5</td>
<td>62.5</td>
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<tr>
<td>Quite Unfavorable</td>
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<td>0.0</td>
</tr>
<tr>
<td>Very Unfavorable</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

### Dominant Leadership Style:
- High Task-Low Relationship 1 12.5
- High Task-High Relationship 6 75.0
- High Relationship-Low Task 0 0.0
- High Task-High Relationship 1 12.5
- High Relationship-Low Task 0 0.0

### Private Liberal Arts Colleges
Of the 24 administrators of Redesign in private liberal arts colleges 83.3% (20) were male and 16.7% (4) were female. The mean age of the respondents was 48.3. Approximately 87.5% (21) of the administrators had earned doctorates, for 8.3% (2) the highest degree was a Master's and 4.2% (1) had an Education Specialist degree.

The mean number of years these administrators were associated with the institution was 12.8. Approximately 87.5% (21) of the administrators were tenured and 12.5% (3) were not tenured. In the private liberal arts college 87.5% (21) of the respondents held the position of head/chairperson/director of teacher education, 8.3% (2) were deans and 4.2% (1) were professors.
Approximately 58.4% (14) of the respondents reported no change in the administrative leadership of Redesign and 41.6% (10) indicated a change in the administrative leadership of Redesign. For 58.4% (14) of the respondents the implementation of Redesign was considered their responsibility. For the other 41.6% (10) the implementation of Redesign was not considered their responsibility. Twenty-five percent (6) of the respondents were not involved in other special projects while implementing Redesign. Approximately 37.5% (9) were involved in one special project besides Redesign, 4.2% (1) were involved in two projects, 8.3% (2) had three special projects, 8.3% (2) had four special projects, 4.2% (1) were involved in five special projects, 8.3% (2) were involved in six special projects and 4.2% (1) of the participants was involved in seven other special projects.

These data are presented in Table 14.

Of the administrators of Redesign in private liberal arts colleges 63% (15) had very or quite favorable attitudes toward innovation in education, 33% (8) of the administrators' attitudes were about equally favorable and unfavorable, 4% (1) had an unfavorable attitude towards innovation in education as measured by the IRS.

Approximately 58% (14) of liberal arts college Redesign administrators' dominant leadership style was high task-high relationship as measured by LEAD.

More specific data on the measured characteristics of the administrators in private liberal arts colleges are presented in Table 15.
TABLE 14
REPORTED CHARACTERISTICS OF RESPONDENTS
IN PRIVATE LIBERAL ARTS COLLEGES

<table>
<thead>
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<th>(N=24)</th>
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<td>40-44</td>
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<td>20.8</td>
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<td>45-49</td>
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<td>16.6</td>
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<td></td>
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<tr>
<td>Master's</td>
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<td>8.3</td>
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<tr>
<td>Doctorate</td>
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<td>Other</td>
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<td>4.2</td>
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<td>3</td>
<td>12.5</td>
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<tr>
<td>4-6</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>7-9</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>10-12</td>
<td>5</td>
<td>20.8</td>
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<td>13-15</td>
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<td>20.8</td>
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<td>16-18</td>
<td>3</td>
<td>12.5</td>
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<tr>
<td>19 or more</td>
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<td>20.8</td>
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<td><strong>Tenured:</strong></td>
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<td></td>
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<tr>
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<td>21</td>
<td>87.5</td>
</tr>
<tr>
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<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Position:</strong></td>
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</tr>
<tr>
<td>Dean</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>Head/Chair/</td>
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<td>Director</td>
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<tr>
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<td></td>
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<td>58.4</td>
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<td><strong>Administrator Responsibility:</strong></td>
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<td></td>
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<td>14</td>
<td>58.4</td>
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<td>10</td>
<td>41.6</td>
</tr>
<tr>
<td><strong>Number of Special Projects:</strong></td>
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<td>25.0</td>
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<td>9</td>
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<td>4.2</td>
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<tr>
<td>6 or more</td>
<td>3</td>
<td>12.5</td>
</tr>
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</table>
TABLE 15
MEASURED CHARACTERISTICS OF ADMINISTRATORS IN PRIVATE LIBERAL ARTS COLLEGES

<table>
<thead>
<tr>
<th></th>
<th>NUMBER</th>
<th>PERCENT OF RESPONDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRS:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Favorable</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>Quite Favorable</td>
<td>10</td>
<td>41.7</td>
</tr>
<tr>
<td>About Equal</td>
<td>8</td>
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<td>0.0</td>
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<tr>
<td>Dominant Leadership Style:</td>
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<td>8.3</td>
</tr>
<tr>
<td>High Task-High Relationship High Task-Low Relationship</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Rated Effectiveness and Type of Institutions

Included in this section are the results of the rated effectiveness of the institutions' implementation of Redesign, as judged by three individuals who were knowledgeable about the program in all of the institutions.

Of the 43 institutions rated on their effectiveness of implementing Teacher Education Redesign 14% (6) were rated excellent. An excellent rating was defined as the institutions having met the letter and spirit of the standards. Another 53.4% (23) of the institutions were rated as having met the redesign standards to the letter but not the spirit. This rating was considered average implementation. Those institutions
receiving a rating of poor implementation comprised 32.6% (14) of the institutions. Poor implementation of Redesign was defined as not having met the spirit and having barely met the letter of the standards. These data are depicted in Figure 7.

The 43 institutions were divided into the types of institution to compare the types in terms of their rated effectiveness of the implementation of Redesign. Of the 14% of the institutions rated excellent two were public universities, one was a private university, and three were private liberal arts colleges. Eight public universities, five private universities, and 10 private liberal arts colleges were rated average. Of the 32.6% of the institutions receiving a rating of poor implementation of Redesign, two were public universities, one was a private university and 11 were private liberal arts colleges. These data are shown in Table 16.

<table>
<thead>
<tr>
<th>TYPE OF INSTITUTION</th>
<th>EFFECTIVENESS RATING</th>
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</thead>
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<tr>
<td>PUBLIC UNIVERSITY (N)</td>
<td>PRIVATE UNIVERSITY (N)</td>
</tr>
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<td>Excellent</td>
<td>2</td>
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<tr>
<td>Average</td>
<td>8</td>
</tr>
<tr>
<td>Poor</td>
<td>2</td>
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</table>
Figure 7: Effectiveness Rating of Institutions' Implementation of Redesign
Analysis of Research Questions

The results of the multiple regression analysis conducted on the primary research questions are presented in this section. Due to the exploratory nature of the study the simple correlation \( r \) between the administrators' characteristics and the organizational factors are presented. Presented also are the results of the Chi-square tests employed to answer the two subquestions of the study.

Primary Research Questions Results

The research questions guiding this study were formulated following an analysis of selected change literature and consultation with individuals who are knowledgeable about the change process. The dependent variables for the first three research questions were ultimately formulated following a factor analysis conducted on the AETER questionnaire.

Question I: Is the faculty acceptance of change as measured by AETER related to:
(a) the administrator's leadership style(s) as measured by LEAD;
(b) the administrator's attitude towards innovation in education as measured by LEAD;
(c) the number of other special projects for which the administrator was responsible;
(d) the changes in administrative leadership during Redesign; and
(e) whether or not Redesign implementation was the administrator's responsibility?

The data from the multiple regression analysis, where the criterion variable was the faculty acceptance of the change, is presented in Table 17.

The set of independent variables were found to be nonsignificant in predicting faculty acceptance of change \( (F=1.24) \). The calculated
TABLE 17
CALCULATED REGRESSION ANALYSIS FOR
FACULTY ACCEPTANCE OF CHANGE

<table>
<thead>
<tr>
<th>PREDICTOR VARIABLES</th>
<th>MULTIPLE R</th>
<th>BETA WEIGHT</th>
<th>F SCORES</th>
<th>r</th>
</tr>
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<td>.07</td>
<td>.22</td>
<td>.11</td>
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<td>1.89*</td>
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</tbody>
</table>

N=45       df=37      *p < .05      #p < .01

Multiple R for the equation when all the predictors were included was .44. It should be noted that the Multiple R of .44 indicated a moderate relationship between the set of predictor variables and the criterion variable. The $R^2$ value indicated 21% of the variance in the criterion variables was explained by the set of independent variables. In general, the independent variables employed in the equation do not explain a large amount of the variance in the criterion variable "Faculty Acceptance of Change."

However, it is important to note the effect of individual predictor variables on the criterion variable. When the influence of the other predictor variables are controlled for administrator responsibility (beta = .22) is significantly related to the criterion variable at $p < .01$. The beta weight indicates that as the administrator's
responsibility for the change effort increases it is more likely that faculty acceptance of the change will increase. A correlation coefficient of .26 suggests an independent relation between the change being considered the administrator's responsibility and the criterion variable.

A high task-high relationship leadership style was significant at p < .05. A beta weight of -.35 suggests that as administrators exhibited less of a high task-high relationship leadership style it was more likely that there would be an increase in faculty accepting change.

A high relationship-low task leadership style had a significantly negative relationship (beta = -.45; p < .01) with faculty acceptance of change. A correlation coefficient of -.26 suggests a possible independent relation between a high relationship-low task leadership style and the criterion variable. The negative beta and correlation coefficient indicates that as administrators exhibited less of a high relationship-low task leadership style faculty acceptance of change tended to increase.

A significant beta weight of .27 (p < .01) for IRS scores indicates that an increase in favorable attitudes of the administrator toward innovation in education was related to an increase in the faculty accepting the change.

The second research question was:

**Question II:** Are administrator's expected changes in faculty roles as measured by AETER related to:
(a) the administrator's leadership style(s) as measured by LEAD;
(b) the administrator's attitude towards innovation in education as measured by IRS;
(c) the number of other special projects for which the administrator was responsible;
(d) the changes in administrative leadership during Redesign; and
(e) whether or not Redesign implementation was the administrator's responsibility?

Table 18 presents the data.

TABLE 18
CALCULATED REGRESSION ANALYSIS FOR EXPECTED CHANGES IN FACULTY ROLES

<table>
<thead>
<tr>
<th>PREDICTOR VARIABLES</th>
<th>MULTIPLE R</th>
<th>BETA WEIGHT</th>
<th>F SCORES</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator Responsibility</td>
<td>.38</td>
<td>-.31</td>
<td>5.33</td>
<td>-.40</td>
</tr>
<tr>
<td>Leadership Styles:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Task-Low Relationship</td>
<td>.43</td>
<td>-.01</td>
<td>.01</td>
<td>-.25</td>
</tr>
<tr>
<td>High Task-High Relationship</td>
<td>.43</td>
<td>.19</td>
<td>.68</td>
<td>.03</td>
</tr>
<tr>
<td>High Relationship-Low Task</td>
<td>.54</td>
<td>.38</td>
<td>3.17</td>
<td>.32</td>
</tr>
<tr>
<td>IRS</td>
<td>.61</td>
<td>.33</td>
<td>5.08</td>
<td>.40</td>
</tr>
<tr>
<td>Administrative Change</td>
<td>.61</td>
<td>-.05</td>
<td>.12</td>
<td>-.13</td>
</tr>
<tr>
<td>Number of Other Special Projects</td>
<td>.61</td>
<td>.03</td>
<td>.04</td>
<td>.06</td>
</tr>
</tbody>
</table>

N=45, df=37, *p < .05, #p < .01

The set of independent variables were found to be significant in predicting faculty acceptance of change (F=3.18). The F score for this equation was significant at p < .01 level of significance.

An examination of Table 18 shows that a Multiple R of .38 increases to a Multiple R of .61 when all the predictors were included. It could also be noted that a Multiple R of .61 is reached before considering administrative change and number of other special projects. The lack of increase in the Multiple R when the last two predictors were included attest to the possible low predictive power of these two predictors on this criterion variable. In general, the predictors considered
explained a greater amount of the variable in "Expected Changes in Faculty Roles" (40%) than in "Faculty Acceptance of Change."

Three of the predictor variables were also found to be significant at p < .01. These were administrator responsibility, high relationship-low task leadership, and attitude towards innovation in education as measured by IRS.

A beta weight of -.01 for a high task-low relationship leadership style attests to a non-significant relation between this style and the criterion variable when the other predictor variables were controlled for. However, a correlation coefficient (r = -.25) for a high task-low relationship leadership style indicated a negatively marginal relation between this style and the administrator's expectations for change in faculty roles. The coefficient suggests that the less an administrator exhibits a high task-low relationship leadership style the more likely administrators expected changes in faculty roles.

High relationship-low task leadership style has a beta weight of .38. The calculated beta tends to support the view that a high relationship-low task leadership style is associated with increased expectations for changes in faculty roles. A correlation coefficient of .32 suggests that there is an independent relation between a high relationship-low task leadership style and the criterion variable.

The more favorable an administrator's attitude towards innovation in education (beta = .33) the more likely there will be an increase in administrator's expectations of changes in faculty roles. A correlation coefficient of .40 suggests that there is an independent relation between scores on the IRS and the criterion variable.
Administrator's responsibility for the change (beta = -.31) is significantly related to the criterion variable, when the effect of the other predictor variables are controlled for. Administrator responsibility also has a moderately high correlation coefficient (r = -.40) with the changes in faculty roles that are expected by the administrator. This coefficient suggests an independent relation between administrative responsibility and the expectations administrators have for changes in faculty roles. A negative beta and correlation coefficient indicate that as the administrator's responsibility for the change effort decreases it is more likely that the administrator's expected changes in faculty roles will increase.

The third research question was:

Question III: Is the use of organizational reward and sanction system, as measured by AETER, related to:
(a) the administrator's leadership style(s) as measured by LEAD;
(b) the administrator's attitude towards innovation in education as measured by IRS;
(c) the number of other special projects for which the administrator was responsible;
(d) the changes in administrative leadership during Redesign; and
(e) whether or not Redesign implementation was the administrator's responsibility?

Table 19 shows the multiple regression analysis between the predictors and the criterion variable (Organizational Reward and Sanction System). The full set of independent variables were found to be nonsignificant in predicting the use of the organizational reward and sanction system (F = 1.43). Based on the data depicted in Table 19 and a $R^2$ of .21 it would be concluded that as a group the predictors being considered will not be good predictors of the criterion variable.
TABLE 19
CALCULATED REGRESSION ANALYSIS FOR USE OF ORGANIZATIONAL REWARD AND SANCTION SYSTEM

<table>
<thead>
<tr>
<th>PREDICTOR VARIABLES</th>
<th>MULTIPLE R</th>
<th>BETA WEIGHT</th>
<th>F SCORES</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator Responsibility</td>
<td>.08</td>
<td>.12</td>
<td>.60</td>
<td>.08</td>
</tr>
<tr>
<td>Leadership Styles:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Task-Low Relationship</td>
<td>.14</td>
<td>.27</td>
<td>2.66 #</td>
<td>.13</td>
</tr>
<tr>
<td>High Task-High Relationship</td>
<td>.16</td>
<td>-.12</td>
<td>.23</td>
<td>-.06</td>
</tr>
<tr>
<td>Low Task-High Relationship</td>
<td>.20</td>
<td>-.04</td>
<td>.02</td>
<td>-.01</td>
</tr>
<tr>
<td>IRS</td>
<td>.23</td>
<td>.24</td>
<td>2.13 #</td>
<td>.10</td>
</tr>
<tr>
<td>Administrative Change</td>
<td>.45</td>
<td>-.45</td>
<td>7.37 #</td>
<td>-.32</td>
</tr>
<tr>
<td>Number of Other Special Projects</td>
<td>.46</td>
<td>-.11</td>
<td>.60</td>
<td>-.07</td>
</tr>
</tbody>
</table>

N=45  df=37  *p < .05  #p < .01

In spite of the poor predictive ability of the variables as a group, three of the variables were found to have a significant relation to the criterion variable at the p < .01 level of significance, and therefore should be considered individually.

A beta weight of .27 suggests that there is a relation between administrators exhibiting a high task-low relationship leadership style and their reported use of the organizational reward and sanction system.

A significant beta weight of .24 for IRS scores indicates that as the attitude of the administrator towards innovation in education increases their reported use of the organizational reward and sanction system will increase.

Changes in administrative leadership has a negatively significant relationship (beta = -.45) with their reported use of the organizational
reward and sanction system. A correlation coefficient of -.32 suggests an independent relation between changes in administrative leadership of a change effort and the criterion variable. A negative beta and correlation coefficient indicate that as changes in administrative leadership decreases their use of the organizational reward and sanction system increases.

As a result of the jury's rating of the institutions' effectiveness in implementing Redesign, the fourth dependent variable was formulated. The fourth research question was:

Question IV: Is the rated effectiveness of the institution's implementation of Redesign, as measured by a knowledgeable jury, related to:
(a) the administrator's leadership style(s) as measured by LEAD;
(b) the administrator's attitude towards innovation in education as measured by IRS;
(c) the number of other special projects for which the administrator was responsible;
(d) the changes in administrative leadership during Redesign; and
(e) whether or not Redesign implementation was the administrator's responsibility?

The data from the multiple regression analysis where the criterion variable is the rated effectiveness of the institution's implementation of Redesign is presented in Table 20.

As a group the variables considered were not good predictors of the criterion variable. The Multiple R of .45 could be considered as indicating a moderate relation between the predictor variables and the criterion variable. A nonsignificant F of 1.36 for the equation and a $R^2$ of .21 also attest to the poor predictive ability of the group of variables.
TABLE 20
CALCULATED REGRESSION ANALYSIS FOR RATED EFFECTIVENESS

<table>
<thead>
<tr>
<th>PREDICTOR VARIABLES</th>
<th>MULTIPLE R</th>
<th>BETA WEIGHT</th>
<th>F SCORES</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator Responsibility</td>
<td>.11</td>
<td>-.03</td>
<td>.05</td>
<td>-.11</td>
</tr>
<tr>
<td>Leadership Styles:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Task-Low Relationship</td>
<td>.12</td>
<td>.04</td>
<td>.06</td>
<td>.07</td>
</tr>
<tr>
<td>High Task-High Relationship</td>
<td>.27</td>
<td>-.20</td>
<td>.58</td>
<td>-.25</td>
</tr>
<tr>
<td>High Relationship-Low Task</td>
<td>.33</td>
<td>.21</td>
<td>.74</td>
<td>.33</td>
</tr>
<tr>
<td>IRS</td>
<td>.36</td>
<td>.19</td>
<td>1.26</td>
<td>.12</td>
</tr>
<tr>
<td>Administrative Change</td>
<td>.41</td>
<td>-.20</td>
<td>1.45</td>
<td>-.14</td>
</tr>
<tr>
<td>Number of Other Special Projects</td>
<td>.45</td>
<td>.20</td>
<td>1.73*</td>
<td>.18</td>
</tr>
</tbody>
</table>

N=45     df=37   *p < .05   #p < .01

However, of the individual F scores, one variable achieved significance (p < .05). The significant F was associated with the number of other special projects for which the administrator was responsible. It is also interesting to note that when this variable is included in the set of variables the Multiple R increases to .45. When this variable is included in the set 21% of the variance in the criterion variable is explained. A beta weight of .20, although minimal, indicates that the ratings of institutional effectiveness in implementing the change increased when the number of special projects for which the administrator was responsible increased.

A beta weight of -.20 for a high task-high relationship leadership style yields a nonsignificant relation between this style and the criterion variable when the other predictor variables are controlled...
A correlation coefficient \( r = -0.25 \) for a high task-high relationship leadership style indicates a negatively marginal relationship between this style and the rated effectiveness of the institution's implementation of Redesign.

A high relationship-low task leadership style was not significantly related \( \beta = 0.21 \) to the rated effectiveness of the institution's implementation of Redesign. A correlation coefficient of 0.33 indicates an independent relationship between this leadership style and the criterion variable.

**Subquestion Results**

Chi-square tests were computed to help answer the two subquestions in the study. Public and private universities were combined into one category because of the small number of institutions in those categories that were involved in the study as compared with the number of private liberal arts colleges involved in the study. Due to the small size of the population of administrators \( N=45 \) and institutions \( N=43 \), the significance level was set at 0.05 rather than 0.10.

**Subquestion I:** This subquestion and the results of the Chi-square tests on it are discussed in detail below.

Is there a statistically significant relationship between the type of institution and:

(a) the administrator's leadership style(s) as measured by LEAD;

(b) the administrator's attitude towards innovation in education as measured by IRS;

(c) the number of other special projects for which the administrator was responsible;

(d) the changes in administrative leadership during Redesign; and

(e) whether or not Redesign implementation was the administrator's responsibility?
The data in Table 21 indicates there were no statistically significant relationships between the type of institution and the dominant leadership style(s) of the administrators in those institutions.

**TABLE 21**

**CHI-SQUARE ANALYSIS FOR TYPE OF INSTITUTION AND DOMINANT LEADERSHIP STYLES**

<table>
<thead>
<tr>
<th>DOMINANT LEADERSHIP STYLE(S)</th>
<th>UNIVERSITY</th>
<th>PRIVATE LIBERAL ARTS COLLEGE</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Task-Low Relationship</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>High Task-High Relationship</td>
<td>16</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>High Relationship-Low Task</td>
<td>7</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>High Task-High Relationship</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>High Task-Low Relationship</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

n=21  n=24  45

Corrected $X^2 = 3.13$

Tabled $X^2 = 9.49$

Analysis of Table 22 shows there was no statistically significant relationship between the administrator's attitude towards innovation in education and the type of institution.

Table 23 shows there was no statistically significant relationship between the number of other special projects for which the administrator was responsible and the type of institution.
### TABLE 22
**Chi-Square Analysis for Type of Institution and Attitude Towards Innovation**

<table>
<thead>
<tr>
<th>Attitude Towards Innovation</th>
<th>University</th>
<th>Private Liberal Arts College</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Favorable</td>
<td>10</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>About Equal</td>
<td>10</td>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td>Unfavorable</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

n=21

Corrected $X^2 = 1.86$
Tabled $X^2 = 5.99$

---

### TABLE 23
**Chi-Square Analysis for Type of Institution and Number of Special Projects**

<table>
<thead>
<tr>
<th>Number of Special Projects</th>
<th>University</th>
<th>Private Liberal Arts College</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Few</td>
<td>8</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>Many</td>
<td>13</td>
<td>9</td>
<td>22</td>
</tr>
</tbody>
</table>

n=21

Obtained $X^2 = 2.68$
Tabled $X^2 = 3.84$
The data in Table 24 indicates there was a statistically significant relationship between changes in administrative leadership during redesign and the type of institution. The results suggest that universities tended to have more changes in the administrative leadership of Redesign than private liberal arts colleges.

**TABLE 24**

CHI-SQUARE ANALYSIS FOR TYPE OF INSTITUTION AND ADMINISTRATIVE CHANGE

<table>
<thead>
<tr>
<th>ADMINISTRATIVE CHANGE</th>
<th>UNIVERSITY</th>
<th>PRIVATE LIBERAL ARTS COLLEGE</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>15</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>14</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>n=21</td>
<td>n=24</td>
<td>45</td>
</tr>
</tbody>
</table>

Obtained $X^2 = 4.73$
Tabled $X^2 = 3.84$

Table 25 shows there was no statistically significant relationship between whether or not administrators considered the implementation of Redesign their responsibility and the type of institution.

**TABLE 25**

CHI-SQUARE ANALYSIS FOR TYPE OF INSTITUTION AND ADMINISTRATOR RESPONSIBILITY

<table>
<thead>
<tr>
<th>ADMINISTRATOR RESPONSIBILITY</th>
<th>UNIVERSITY</th>
<th>PRIVATE LIBERAL ARTS COLLEGE</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>15</td>
<td>13</td>
<td>28</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>n=21</td>
<td>n=24</td>
<td>45</td>
</tr>
</tbody>
</table>

Obtained $X^2 = 1.41$
Tabled $X^2 = 3.84$
In summary, the results of the Chi-square tests on the first subquestion revealed there was a statistically significant relationship between the type of institution and changes in administrative leadership during redesign.

There were no statistically significant relationships between the type of institution and (1) whether or not Redesign implementation was the administrator's responsibility, (2) administrator's attitude toward innovation in education as measured by IRS, (3) dominant leadership style as measured by LEAD, or (4) the number of other special projects for which the administrator was responsible.

Subquestion II: The second subquestion and the Chi-square analysis are presented below:

Is there a statistically significant relationship between the rated effectiveness of the institutions' implementation of Redesign and the type of institution?

The data in Table 26 shows there was no statistically significant relationship between the rated effectiveness of the institutions' implementation of Redesign and the type of institution.

<table>
<thead>
<tr>
<th>RATED EFFECTIVENESS</th>
<th>UNIVERSITY</th>
<th>PRIVATE LIBERAL ARTS COLLEGE</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Average</td>
<td>13</td>
<td>10</td>
<td>23</td>
</tr>
<tr>
<td>Poor</td>
<td>3</td>
<td>11</td>
<td>14</td>
</tr>
</tbody>
</table>

n=19  n=24  N=43

Corrected $X^2 = 1.01$

Tabled $X^2 = 5.99$
Summary

Chapter IV presented a descriptive summary of the characteristics of Redesign administrators and their institutions, the characteristics of the respondents in relation to the types of institutions, the rated effectiveness of the institutions' implementation of Redesign in relation to the type of institution, and an analysis of the research questions.
CHAPTER V

SUMMARY, CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

Introduction

The final chapter has been organized into four sections: summary, conclusions, discussion, and recommendations for further study. The summary gives a brief overview of the study. Conclusions are drawn from the findings in terms of the research questions. The discussion examines the findings in relation to the review of literature presented in Chapter II. Recommendations for further research are formulated from the context of the study.

Summary

Purpose of the Study

The purpose of this pilot study was to attempt to examine the relationship between characteristics of higher education administrators and organizational factors associated with the change process. The selected organizational factors employed in the study were: (1) faculty acceptance of the change, (2) expected changes in faculty roles, (3) organizational reward and sanction system, and (4) effectiveness of the institutions' implementation of the change. The predictors in the study were selected personal characteristics of higher education administrators that were repeatedly identified in the change literature as affecting the implementation of change. The selected personal characteristics of administrators were: (1) administrator's leadership style(s), (2) administrator's attitude towards innovation in education,
(3) the number of other special projects for which the administrator was responsible, (4) changes in administrative leadership of the change effort, and (5) whether or not the change effort was the administrator's responsibility. Each of the research questions related the organizational factors to the set of personal characteristics.

The particular change that was the focal point of this study was the Teacher Education Redesign effort in Ohio colleges and universities mandated by the Ohio State Department of Education in their publication "The Standards for Colleges and Universities Preparing Teachers" (1975). The standards were intended to provide the basis for restructuring teacher education by developing a comprehensive program to meet the needs of pre-service teachers by enabling them to address the changing and varying needs of students regardless of subject area, grade levels, or home background. This is a study of externally mandated change.

Population

Administrators of Redesign were defined in this study as those individuals who at the time of the survey had the responsibility of providing direction for the Redesign program in their institutions. The names of the administrators and their institutions were obtained from the Ohio Department of Education. Forty-three (89.6%) of the 48 Ohio institutions that were expected to redesign their teacher education program were involved in the study. Two of the 43 institutions identified two Redesign administrators. Therefore, 45 responses were received from participating administrators.

The selected characteristics of the administrators (45) and their institutions (43) were computed from response frequencies to items on
Crowley's "Institutional Renewal Scale" questionnaire, Hersey and Blanchard's "Leader Effectiveness and Adaptability Description" questionnaire, and a background information sheet. Responses showed that approximately 75% (34) of the administrators were male and 91% (41) had earned doctorates. The mean age of the respondents was 50 years. The mean number of years respondents had been affiliated with the institution was 12 years. Almost 85% (38) of the respondents were tenured and 62% (28) were chairpersons/directors/department heads of Teacher Education. Over half (55.5% or 25) of the administrators were at least the second administrator of Redesign at their institution. Approximately 62% (28) of the respondents indicated that they considered the implementation of Redesign as their responsibility. Although the number of other special projects ranged from 0-17, the mean number of other special projects for this group of administrators was 2.4. The dominant leadership style of approximately 67% (30) of the administrators was high task-high relationship. Fifty-six percent (25) had a favorable attitude towards innovation in education.

A little more than half (51.1% or 22) of the 43 institutions' education programs were organized as departments. Almost 56% (24) of the institutions were private liberal arts colleges. Of the 43 institutions rated on their effectiveness of implementing Teacher Education Redesign approximately 14% (6) were rated excellent, 53% (23) were rated average, and 33% (14) were rated poor.

Instruments

Three questionnaires were mailed to Redesign administrators to gather data. The three were: (1) Crowley's "Institutional Renewal
"Administrator's Experience with Teacher Education Redesign" (AETER). AETER was developed by the investigator to collect data concerning the organizational factors associated with the change process. The questionnaire was originally designed to address the following six organizational factors associated with the change process: (1) staff resistance, (2) use of sanctions, (3) changes in staff attitudes, behavior, skills, and relationships, (4) staff involvement, (5) funding, and (6) impact on existing program. The investigator used a literature search and a jury analysis to identify the items to measure these six organizational factors. There was no statistical evidence to confirm that any of these organizational factors were measured by AETER before it was administered; therefore, a factor analysis was conducted on the responses of the respondents to determine what organizational factors the questionnaire was measuring.

The factor analysis identified three organizational factors that were being measured by the instrument. These three factors served as three of the four dependent variables for the primary research questions. The organizational factors were: (1) faculty acceptance of change, (2) expected changes in faculty roles, and (3) organizational reward and sanction system.

"Leader Effectiveness and Adaptability Description" (LEAD). Hersey and Blanchard designed the LEAD questionnaire to measure an individual's leadership style(s) and effectiveness (the ability of an
individual to analyze a situation and use the appropriate leadership behavior). LEAD was based on the authors' leadership theory which was discussed in Chapter II.

The four leadership behaviors measured by LEAD were: (1) high task-low relationship, (2) high task-high relationship, (3) high relationship-low task, and (4) low task-low relationship. The directions were written so that the respondents focused on one frame of reference. The investigator instructed the administrators to use Teacher Education Redesign as their frame of reference. Hersey and Blanchard wrote the twelve items as possible situations an administrator might confront. Each situation item had four alternative behaviors that represented each of the four leadership styles. However, only one response was indicative of the appropriate leadership behavior for any given situation.

"Institutional Renewal Scale" (IRS). Crowley's IRS is designed to measure whether an educator has a favorable or unfavorable attitude towards innovation in education. The instrument contains eight items. The items are written as statements about educational innovation. Respondents are instructed to respond to each item on a six point scale of "strongly agree" to "strongly disagree."

**Rated Effectiveness of Institutions' Implementation of Redesign**

The rated effectiveness of the institutions' implementation of Redesign was judged by a jury knowledgeable about Redesign efforts in all the institutions. The ratings were made on a three point scale. The criteria defining the scale were developed by the jury doing the rating and were articulated as follows:
Excellent implementation: the institutions have met the spirit and letter of the Redesign standards.

Average implementation: the institutions have met the letter of the Redesign standards but not the spirit.

Poor implementation: the spirit of the standards was not met and the letter of the standards was barely met.

The rated effectiveness variable was included as a preliminary rating of how effectively the institutions had implemented the change.

Conclusions

Multiple regression analysis was employed to answer the four primary research questions. The personal characteristics of higher education administrators in situ were put into each regression equation as a set.

Faculty Acceptance of Change

A review of the change literature indicates a relationship between selected personal characteristics of administrators in situ and the faculty acceptance of change. The following were drawn based on the findings from that relationship.

Administrators who exhibited a high task-high relationship leadership style tended to report low faculty acceptance of change.

Administrators who exhibited a high relationship-low task leadership style tended to report low faculty acceptance of change. There is a negative correlation between a high relationship-low task leadership style and administrators reporting faculty accepting change.

Administrators who exhibited favorable attitudes toward innovation in education were more likely to report faculty acceptance of change.
Administrators who reported the implementation of Redesign as their responsibility were more likely to report faculty acceptance of change. There is a positive correlation between administrators considering the implementation of Redesign as their responsibility and administrators reporting faculty acceptance of change.

**Expected Changes in Faculty Roles**

A review of the literature indicates a relationship between selected personal characteristics of higher education administrators and expected changes in faculty roles. The conclusions, which follow, were drawn following the testing of that relationship.

The set of five higher education administrators' personal characteristics were relatively good predictors of whether or not administrators reported expecting changes in faculty roles.

Administrators who reported a decrease in their responsibility for Redesign were more likely to report they expected changes in faculty roles. There was a negative correlation between administrative responsibility for Redesign and administrators reporting they expected changes in faculty roles.

Administrators who exhibited a high relationship-low task leadership style were more likely to report they expected changes in faculty roles. There was a positive correlation between a high relationship-low task leadership style and administrators reporting they expected changes in faculty roles.

There was a negative correlation between a high task-low relationship leadership style and administrators reporting they expected changes in faculty roles.
Organizational Reward and Sanction System

A review of the change literature indicates a relationship between selected personal characteristics of administrators in situ and the use of the organizational reward and sanction system. Conclusions were drawn based on the testing of that relationship.

Administrators who exhibited a high task-low relationship leadership style were more likely to report the use of the organizational reward and sanction system.

Administrators who exhibited favorable attitudes towards innovation in education were more likely to report the use of the organizational reward and sanction system.

Administrators who had continuous administrative leadership of Redesign were more likely to report the use of the organizational reward and sanction system. There was a negative correlation between changes in administrative leadership and the reported use of the organizational reward and sanction system.

Rated Effectiveness

A review of the literature indicates a relationship between selected personal characteristics of higher education administrators in situ and institutions' effectiveness in implementing a change effort. The following conclusions were drawn based on the findings that were presented in Chapter IV.

Institutions whose administrators reported being involved in other special projects while administering Redesign were more likely to be rated as having effectively implemented Redesign.
There was a negative correlation between a high task-low relationship leadership style and the criterion variable. There was a positive correlation between a high relationship-low task leadership style and the rated effectiveness of the institution's implementation of Redesign.

**Subquestions**

The subquestions for the study were formulated from a review of the literature which suggested that different types of post-secondary institutions responded differently to demands for change. The subquestions enabled the investigator to explore some implications of this contention.

Chi-square tests were conducted to answer the subquestions. For the purposes of the subquestions analyses the interval measures were divided into nominal categories. Due to the small number of universities participating in the study, private and public universities were combined for this analysis.

**Type of institution.** A review of the change literature suggested a relationship between selected personal characteristics of administrators and the type of institution. It was concluded, based on the findings, that universities were more likely to change Redesign administrators than private liberal arts colleges.

**Rated effectiveness and the type of institution.** A review of the change literature indicates a relationship between the effectiveness of implementing a change effort and the type of institution. It was concluded, based on the findings, that the rated effectiveness of the institution's implementation of Redesign was not related to
the type of institution. A discussion of these conclusions follows.

Discussion

Generally, the findings in this study support what has been suggested in the higher education change literature. The discussion is organized around the following topics: (1) the administrator's attitude towards change, (2) the administrator's leadership style(s), (3) changes in administrative leadership of Redesign, (4) number of special projects in which the administrator was involved, (5) administrator's responsibility for Redesign implementation, and (6) effectiveness rating by type of institution.

Attitude Towards Change

The change literature repeatedly identifies administrators' attitudes toward change as a key characteristic in setting the tone and climate in which the change will occur. The findings in this study, basically, support the literature. Administrators who had positive attitudes are more likely to report faculty acceptance of change, and to expect changes in faculty abilities, skills, and attitudes.

The findings also indicated that using an organizational reward and sanction system is more likely to occur when the administrator has a favorable attitude toward change. This finding is not supported in the higher education change literature. It is interesting to note, however, that most of those administrators who reported using an organizational reward and sanction system, and had positive attitudes toward change were in private liberal arts colleges. Baldridge (1976) points out that in private liberal arts colleges administrators have
a great deal of control and influence. Although it seems unlikely that faculty in academic institutions generally would respond favorably to administrators who relied heavily on the organizational reward and sanction system for compliance, perhaps in these private liberal arts colleges it may be possible for administrators to have a positive attitude and still use the organizational reward and sanction system.

**Leadership Styles**

Hersey and Blanchard's "Situational Leadership Theory" (1977, 1972) is based on the premise that there is no one effective leadership style for all situations. Effective leaders are ones who can adapt their leadership style to the situation. The four leadership styles employed in this leadership theory are: high task-low relationship, high task-high relationship, high relationship-low task, and low task-low relationship. The findings from the present study support the idea that various types of leadership styles are useful for work situations involving mandated change. A discussion of the organizational factors which are associated with the change process in relation to leadership styles follows.

**Faculty acceptance of change.** The findings in the previous chapter indicated that administrators who exhibited a high relationship-low task or high relationship-high task leadership style tended to report that the faculty did not accept the change. A high task-low relationship leadership style, which was the third dominant style of Redesign administrators, showed no statistically significant relationship to faculty acceptance of change. The small number of administrators who exhibited leadership styles of high task-low relationship or high relationship-
low task may have contributed to the lack of relationship between leadership styles and the reporting of faculty acceptance of change.

In spite of the ambiguity of the findings in this study it seems reasonable, for the sake of discussion, to make certain assumptions about the type of leader behavior that might contribute to administrators reporting faculty accepting the change. These assumptions are based on an analysis of the higher education change literature and Hersey and Blanchard's leadership theory (1977, 1972).

The nature of the way individuals in higher education view themselves and their work (e.g., lack of consensus on goals, independent professionals) makes it difficult for administrators to get the faculty to work together to initiate new programs. Administrators may need to recognize the importance of structuring the new program and using their power and authority, inherent in their position, to create such a structure. Administrators who are creating a structure in which the change will occur should probably be task oriented. According to Hersey and Blanchard (1977), administrators who are task oriented believe that faculty members do not have the necessary skills and/or enough understanding of the particular task to operate independently. It may be that administrators are the people in higher education who have the best understanding of: what needs to be accomplished in a mandated change, why it needs to be accomplished, and how it should be accomplished. As task oriented leaders creating a structure to implement a new program, administrators could be responsible for defining roles, tasks, and resources. In effect, such administrators would be responsible for developing a plan for implementation. Berman
and McLaughlin (1976, 1975) contend that faculty members are more likely to accept change if an adequate plan for change is presented to them.

**Expected changes in faculty roles.** Those administrators who exhibited a high relationship-low task leadership style tended to report they expected changes in the roles of faculty members. The literature on change in higher education supports the idea that innovations are more likely to be effectively implemented if faculty role changes take place. The high relationship-low task administrator held a view of faculty roles in change in keeping with the position taken in the literature. Faculty role change in higher education is viewed as a threat to the individual because recognition is achieved through long established roles developed by the individual faculty member. A mandated change in higher education threatens existing procedures and the interest of the individual.

Redesign administrators may have used a high relationship-low task leadership style in reporting they expected changes in faculty roles because they realized that, as independent professionals, people in higher education would not readily respond to a highly structured, task oriented administrator. These administrators may, therefore, have relied on their personal relationships to effect change. Through personal relationships administrators could attempt to convince faculty members to try new tasks and new roles. Hersey and Blanchard call a high relationship-low task leadership style "participating" (1977, p. 196). Such administrators believe that faculty have the capability and understanding to implement the program relatively independently. They establish their expectations for changes in faculty roles by
opening channels for two-way communication and encouraging faculty members to participate in the decision-making process.

**Organizational reward and sanction system.** Those administrators who had exhibited a high task-low relationship leadership style tended to report they used the organizational reward and sanction system. Warren (1976) believes that for every change effort some type of reward and sanction system based on the principles of power and authority needs to be established to get the necessary behavior from the faculty. The use of the organizational reward and sanction system seems to be in keeping with the high task-low relationship leadership style; such administrators know what they want to accomplish and the methods to use to accomplish it. Hersey and Blanchard (1977) call this leadership style "telling" (p. 169). This style is characterized by one-way communication. The administrator believes that the faculty does not have the skills and/or understanding of the new program to implement the program independently. Although in such situations a reward and sanction system may have to be employed, the literature suggests it should be done with caution. House (1976), for example, contends that in higher education the nature of academic norms (e.g., academic freedom) and the skill level of faculty members makes administrators' ability to use personal influence as opposed to position influence one of their most effective skills for initiating and implementing change. The high task oriented administrators would be expected to rely on the influence of position, and thus be more likely to use the organizational reward and sanction system.
Rated effectiveness. Two leadership styles were related to the rated effectiveness of the institutions' implementation of Redesign. Institutions in which administrators exhibited a high task-high relationship leadership style tended not to be highly rated on their implementation of Redesign. Institutions in which administrators exhibited a high relationship-low task leadership style tended to be highly rated on their implementation of Redesign. These findings conform to the present knowledge of the nature of higher education institutions and Hersey and Blanchard's leadership theory. Faculty's level of education, ability, and skills, coupled with their belief in being independent professionals, makes administrators' use of personal relationship more productive in moving the faculty towards change than does administrators' use of structure (1977).

Those administrators who had high relationship-low task leadership style were the same administrators who reported expecting changes in faculty roles. It could be assumed that administrators' expectations of changes in faculty roles contributed to the more effective implementation of mandated change efforts. The literature repeatedly suggests that administrators set the tone and climate in which faculty role change will occur.

Further analysis of the data revealed that of the six institutions rated as having excellent implementation of Redesign one administrator had a dominant leadership style of high relationship-low task and the other five administrators had dominant leadership styles of high relationship-high task. However, of these latter five administrators, four had a high relationship-low task support leadership style. On the
whole, these administrators were fairly consistently oriented to leadership styles involving a high concern for relationship. This finding tends to further attest to the importance of higher education administrators using personal influence rather than position influence to implement mandated change in higher education.

Changes in Administrative Leadership

Organizational reward and sanction system. The organizational reward and sanction system was reported as more likely to be employed when the administrative leadership of Redesign did not change. This conclusion is not supported in the change literature. Yet it seems possible to make certain assumptions in light of the data gathered for this study and Baldridge's (1976) higher education topology.

An earlier conclusion indicated that administrators who use the organizational reward and sanction system exhibited a high task-low relationship leadership style. It seems reasonable to assume, therefore, that highly task oriented administrators are more likely to use what French and Raven (1960) call position influence (reward power, coercive power, legitimate power) rather than personal influence (referent power, expert power).

The three administrators who had a high task-low relationship leadership style and a positive attitude towards change also had continuous administrative leadership of Redesign in their institutions. One of these institutions was rated as having a poor implementation of Redesign and two were rated as having an average implementation. One institution was a private university with a religious governing board, another was a predominantly black public university and the third was
a private liberal arts college. Following discussions with individuals who were knowledgeable about the institutions, it was suggested that neither of the two universities were typical of Baldridge's characterization of universities. The predominantly black institution is more characteristic of a public college and the private university is more characteristic of a private liberal arts college. Of the remaining 23 private liberal arts colleges in the study, 19 had administrators who exhibited a high task-low relationship support leadership style.

In private liberal arts colleges and public colleges administrators tend to have a high degree of bureaucratic control over the faculty and use direction and control to influence the operations of the institution. It seems reasonable to assume that administrators in these types of institutions may be more predisposed to use an organizational reward and sanction system for faculty compliance and that to use the organization reward and sanction system is not necessarily an indication of the degree to which they have a favorable or unfavorable attitude toward change.

Type of institution. The Chi-square test results suggested that university administrators tended to report more changes in administrative leadership in Redesign than private liberal arts college administrators. Fewer changes of administrators in private liberal arts colleges could occur because administrators in these types of institutions, unlike universities, have a great deal of power and influence on the decision-making process. For administrators in private liberal arts colleges, an administrative position may seem to carry prestige. On the other hand, there could be fewer changes in administrative leadership in
private liberal arts colleges because of the small pool of faculty from which to choose. Universities usually have a larger faculty pool.

Baldridge states that faculty in universities tend to be more academically qualified and loyal to their discipline because the focus of these institutions is in research and graduate training. Individuals in private liberal arts colleges tend to be less academically qualified and more loyal to the institution (1976). Changes in administrative leadership in universities could occur more frequently because the administrators are more cosmopolitan. Once university administrators have accomplished their objectives at one institution, they may be more likely to move to another institution. Their high academic qualifications might make for increasing mobility.

**Number of Special Projects**

In the data gathered for the present study, administrators reported the number of special projects for which they were responsible, besides Redesign, varied from 0 - 17. The findings in the present study indicate that the more special projects in which administrators were involved, the more likely institutions were rated as having effectively implemented Redesign. Observers of higher education institutions agreed that many change efforts are being implemented in isolation from what is occurring and what needs to occur in the future. In this study it seems reasonable to assume administrators who are providing direction for several projects may have more influence generally, and greater access to resources enabling them to be more effective in coordinating projects.
Judson (1966) speculates that the number of special projects administrators can effectively direct is related to their social and psychological make-up. Some higher education administrators may be responsible for several projects because their individual or combined personal characteristics are viewed by others as making them effective administrators of change. They may be able to generate enthusiasm from others. They may present the project well to others. They may appeal to those who will evaluate the project. They may have the ability and skills to implement several projects effectively. Overall, there are probably many factors which influence the success of mandated change efforts of which the number of special projects for which the administrator is responsible is only one; and, other factors probably play a significant role in determining the success of mandated change efforts.

Administrators' Responsibility

After the study was completed, examination of the data indicated that the question concerning administrators' responsibility to the implementation of Redesign may be ambiguous and the findings may reflect that ambiguity. (See Appendix A, Background Information, Item 8.) All of the administrators may have felt responsible for the implementation of Redesign but may have responded to the question differently. The wording of the question made it possible for there to be two interpretations of the responses.

To interpret the findings in view of the ambiguity, administrators who responded "yes" to the question could have meant that they felt responsible for Redesign implementation and they got others to participate in the implementation. These administrators could have used
personal or position influence to get faculty participation.

Administrators who responded "no" to the question may have realized that they could not implement Redesign without the assistance of the faculty. Therefore, they reported that they were not responsible because they had to get others involved in the implementation. These administrators may have done all of the same things as the administrators who responded "yes", but administrators who responded "no" may have felt that, by its very nature, the Redesign program could not be the responsibility of one person.

It needs to be noted that at the time of the survey for this study it is likely that all of the administrators felt some degree of responsibility for the implementation of Redesign. When the data were collected, the Ohio Department of Education was beginning to evaluate the institutions' implementation of Redesign. It seems reasonable to assume that the Redesign administrators realized that the Department of Education expected to see some changes in the institutions' teacher education program.

Effectiveness Rating by Type of Institution

Baldrige's (1978) topology of post-secondary institutions claims that out of necessity large institutions are organizationally complex and fragmented. The size, and organizational complexity and fragmentation of large institutions causes decision processes to be decentralized. Blau (1973) indicates that decentralized decision processes can be effective with standard operating procedures; but, due to the nature of change, decentralized decision processes tend to be ineffective with change efforts. Analysis of the literature suggests that smaller,
less complex and less fragmented institutions may be more conducive to implementing change.

The finding in this study, however, revealed that the type of institution was not related to the institution's rating on its effectiveness in implementing Redesign. This finding could be attributed to the small population size and the small amount of variance on the rating scale. A larger population and/or more variance on the rating scale might have produced different results. Another possible reason for the finding could be that the institution's effectiveness in implementing new mandated programs is affected more by the administrators' characteristics in situ than by the organizational structure of the institution.

Summary

In summary, this study had three major findings. One finding suggested higher education institutions tended to be rated high for their implementation of the mandated change when the administrator's leadership style was relationship oriented. Another finding indicated that higher education administrators who had favorable attitudes toward change tended to expect changes in faculty roles and reported the faculty accepted the mandated change. The final finding suggested that the organizational reward and sanction system tended to be used by administrators in private liberal arts colleges. These administrators tended to be task-oriented, have favorable attitudes toward change, and reported no change in the administrative leadership of the mandated change.
The findings in the present study suggest that there are relations between selected personal characteristics of higher education administrators in situ and selected organizational factors associated with change. The findings, however, are in no way conclusive. The small population size makes the findings rather tentative until the study can be replicated with similar populations.

Suggestions for further research follow.

Recommendations for Further Research

Based on the findings and discussion of the findings in this study, some recommendations for further research follow.

1. The study revealed there were some statistically significant personal characteristics of higher education administrators that could be predictors of organizational factors associated with the change process. However, there is a caution in the generalizability of these findings, due to the small size of the population. Therefore, studies should be conducted with higher education administrators who are in the process of implementing mandated change in other states. The purpose of the studies would be to examine the extent to which the predictive equations are generalizable to other populations.

2. In the present study it was hypothesized that administrators' characteristics would effect the organizational factors associated with change. The change literature suggest that the organizational factors and characteristics of the administrator are a reciprocal relationship. Therefore, it would be useful to conduct a study which examines how the
organizational factors effect the administrator's characteristics.

3. The study revealed that the more special projects for which administrators were responsible the more likely the institution was rated as having effectively implemented Redesign. The change literature suggests that the number of special projects administrators can effectively direct is based on their social and psychological make-up. Data gathered for the present study is based on the personal characteristics of administrators in relation to their position rather than their social and psychological characteristics. Therefore, a study should be conducted to explore why some administrators' social and psychological make-up enables them to be more capable of effectively directing a greater number of change efforts than other administrators.

4. This study was based on self-reports from Redesign administrators. The study should be replicated using in-depth interviews with Redesign administrators and teacher education faculty members.

5. The personal characteristics of administrators employed as independent variables in the study were chosen because the change literature indicated they impacted on the organizational factors associated with the change process. In this study some of the variables were found to be statistically non-significant related and in some instances the independent variables did not account for a large amount of the variance
in the organizational factors. Studies should be conducted to clarify these ambiguous results. The focus of the studies would be to see if the nonsignificant characteristics employed in this study were nonsignificant with other populations of higher education administrators. The studies would also identify other characteristics of higher education administrators which were not used in this study but could account for more of the variance in the organizational factors.

6. Propositions in the higher education change literature suggest that certain types of post-secondary institutions may be more predisposed to implementing change because of their organizational structure. The finding in the present study did not support the proposition. Studies should be conducted to continue to test the propositions in the literature.

7. The finding in a study conducted by Hansen and Orlich (1980) indicated that changes in administrative leadership of innovation in higher education tend to have a negative effect on the implementation of the innovation. A finding in the present study revealed that universities tended to have more changes in the administrative leadership of Redesign than private liberal arts colleges. Studies should be conducted to explore the generalizability of the finding in this study and to identify characteristics of administrators and/or institutions that contribute to the tendency for universities to have more changes in administrative leadership of an innovation than private liberal arts colleges.
APPENDIX A

Questionnaires
ADMINISTRATORS' EXPERIENCE
WITH TEACHER EDUCATION REDESIGN

INSTRUCTIONS: The purpose of this questionnaire is to get a sense of your experience in relation to implementing the Teacher Education Redesign program at your institution. Please respond to the following items on a scale of agree or disagree. Agree means the statement is generally accurate with what happened at your institution.

1. The institution's reward system is based on teaching, not the effort to redesign the teacher education program. A DA

2. The institution's reward system is based on research not the effort to redesign the teacher education program. A DA

3. When modifications were made in goals, objectives, or plans of the Redesign program the teacher education faculty was involved through staff meetings and/or committees. A DA

4. The entire teacher education faculty had an opportunity to provide input into the setting of goals, objectives, and the initial planning. A DA

5. Teacher education faculty had difficulty accepting the Redesign program. A DA

6. Teacher education faculty had difficulty accepting the Redesign program because it was mandated from outside the institution. A DA

7. The Redesign program recommended changes that made the faculty really look at the teacher education program. A DA

8. In order to implement the Redesign program some type of formal or informal sanctions were employed internally to assure participation by faculty members. A DA
9. Tenured and senior teacher education faculty members were more resistant to the Redesign program than others. A DA

10. Tenured and senior teacher education faculty members impeded the outcomes of the Redesign program more than others. A DA

11. Members of the teacher education faculty were more interested in the Redesign program as a whole rather than their particular discipline. A DA

12. The main resistance to the Redesign program came because of the desire not to change on the part of members of the teacher education faculty. A DA

13. Resistance to change did more to impede the redesign effort than did philosophical differences. A DA

14. The Redesign program was constantly in the spotlight. A DA

15. The problems with implementing the Redesign program were always in full view for others to see. A DA

16. The teacher education staff did not want the State Department of Education telling them how to comply with the teacher education redesign standards. A DA

17. The Redesign program at this institution was broadly focused to allow for alternative approaches. A DA

18. The Redesign program altered the goals of teacher education at this institution. A DA

19. Complying with the standards for redesigning the teacher education program caused the teacher education faculty a loss of unnecessary problems. A DA

20. The role of members of the teacher education faculty changed based on their abilities and skills to adapt to the needs of the redesign effort. A DA

21. Members of the teacher education faculty were not expected to change their attitudes about teacher education. A DA
22. Members of the teacher education faculty were not expected to change their behavior in order to implement the Redesign program.

23. Members of the teacher education faculty were not expected to develop new skills to implement the Redesign program.

24. Members of the teacher education faculty were not expected to change their relationships with other members of the faculty in order to implement the Redesign program.

25. Teacher education faculty members believe too much time is spent in the field to comply with the field experience of the redesign standards.

26. Initial orientation to the Redesign program was held for the teacher education faculty.

27. Special funding will be important for the continuation of the Redesign program.

28. Teacher education faculty was aware of any institutional constraints associated with the redesign effort.
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These consist of pages:

138-142
Background Information

INSTRUCTIONS: Please complete each of the following items as accurately as possible. Where a choice is given check (✓) the alternative which best applies.

A. Personal Background Information

1. Sex  Male  Female

2. Present age ____

3. Highest Earned Degree

   ____Bachelor  ____Doctorate

   ____Masters  ____Other (Please Specify):

4. Number of years at the institution. ____

5. Are you tenured?  ____Yes  ____No

*6. Are you the same administrator who had the responsibility of the initial planning and implementation of Redesign?

   ____Yes  ____No

*7. How many other special projects were you involved in while implementing the Redesign program? ____

*8. Do you consider the implementation of the Redesign program your responsibility?

   ____Yes  ____No

9. What is your position at the institution? ____________________

B. Institutional Background Information

1. Organizational structure of Education in the institution:

   ____College  ____Department

   ____Division  ____Other (Please Specify):
2. Type of Institution:

______ Public University   ______ Private University

______ Private Liberal Arts College   ______ Public College

______ Other (Please Specify): ________________________________
APPENDIX B

Letter and Postcard Mailed to Participants
Dear

This correspondence is to request your participation in a study concerned with your experience with the Teacher Education Redesign program at your institution. An examination of the literature indicates that the administrator is a key factor in any change process. As the administrator of the Teacher Education Redesign program at your institution, you are part of a small population of administrators who have had the unique experience of implementing a major institutional change.

Four instruments will be used to provide data relative to your experience with Teacher Education Redesign, your administrative style, your ideas and concerns regarding innovation in education, and background information. The four instruments will not require more than a total of 35 minutes to complete.

Enclosed is a postcard that we hope you will return to us indicating your willingness to participate in the study. If you believe that you are not the appropriate person to answer the questionnaires or that another person along with yourself should respond, then would you please indicate on the postcard the name, address and position of the person you would recommend we contact. We would appreciate your returning the postcard by April 30, 1981. Questionnaires will subsequently be mailed within two weeks.

To maintain anonymity of respondents and at the same time obtain the highest possible returns due to the small size of the population, a number has been placed in the upper right hand corner of the postcard. This number is related to our method of communicating with non-respondents. At no time will you or your institution be identified with your response.

We believe you will find participating in this study to be well worth your time. A summary of the findings will be sent to you. Thank you in advance for your participation.

Sincerely,

Cynthia L. Jackson
Graduate Research Associate

James K. Duncan
Professor, Educational Foundations and Research

College of Education
STUDY OF ADMINISTRATORS OF TEACHER EDUCATION REDESIGN

Please check and provide all appropriate information.

I am willing ___ am not willing ___ to participate in the study.

I am not the appropriate person at this institution to participate in the study; you should contact the following person.

_____________________________________________________________

I am willing to participate and you should also contact the following person at this institution to participate in the study.

_____________________________________________________________

Please Type or Print:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
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Address

________________________________________________________________

Thank you
APPENDIX C

Letter Mailed with Questionnaires
Dear

Much research has been done about innovations in education but there is little research concerning organizational, structural, or programmatic changes in higher education. Yet, these types of changes do occur. As you know from your own involvement, one recent change that occurred in some colleges and universities preparing teachers in Ohio was the redesign of teacher education.

This study focuses on changes related to the Teacher Education Redesign program. Your understanding of implementing a mandated change in higher education could assist in describing administrative factors involved.

Enclosed are the four questionnaires that will be used in this study to provide data relative to your experience with Teacher Education Redesign, your administrative style(s), your ideas and concerns regarding innovation in education, and background information. The four questionnaires will require a total of 35 minutes to complete. Please return the questionnaires in the enclosed envelope by May 22, 1981.

We are concerned about maintaining the anonymity of respondents and at the same time obtaining the highest possible returns due to the small size of the population. The number in the upper right hand corner of each questionnaire is related to our method of communicating with non-respondents. At no time will you or your institution be identified with your response.

We would like to thank you for your participation and time. A summary of the findings will be mailed to you upon completion of the study.

Sincerely,

Cynthia L. Jackson  
Graduate Research Associate

James K. Duncan  
Professor, Educational Foundations and Research

College of Education
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