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ABSTRACT

Response to change in educational institutions requires information about influential factors. The conceptual framework which guided this study views the process of change in three basic phases. First, there is an antecedent phase which necessitates the coming together of an advocate with an innovation designed for some set of consumers. Once these conditions are in existence, the process of change enters an interactive phase in which advocates and consumers communicate about the content of the innovation. The third phase, the consequent or impact phase, really overlaps the interactive phase and consists of the effects or consequences of the interactive phase. This paper reports the development and results of a survey technique to gain information on the response to an innovation in six high schools. Data was gathered three times over a year's time. The analysis revealed that involvement in, attitudes toward, and expectations for the innovation varied over time and among sites. Respondents of black ethnic origin were also shown to be more involved and more positive than their white colleagues. This information was useful to developers and users in their attempt to respond to the change. (Author/BW)

EVALUATING THE PROCESS OF EDUCATIONAL CHANGE: A METHOD

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Response to change in educational institutions requires information about influential factors. This paper reports the development and results of a survey technique to gain information on the response to an innovation in six high schools. Data was gathered three times over a year's time. The analysis revealed that involvement in, attitudes toward, and expectations for the innovation varied over time and among sites. Respondents of black ethnic origin were also shown to be more involved and more positive than their white colleagues. This information was useful to developers and users in their attempt to respond to the change.

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PROBLEM ADDRESSED

The call to change some aspect of life in organizations dealing with educational issues is an ever present possibility. As changes are created and introduced, some succeed in being adopted while others fall by the wayside. Those who deal with or are affected by such changes are often curious about the success or failure of these attempts. Many times information is collected about the end result of a change. However, such information generally tells little about why the change succeeded or failed. Without information about why changes succeed or fail, one has to rely simply on intuition and conjecture in dealing with the particular change or the introduction of subsequent change attempts.

Information about the factors influencing the acceptance of a change as it is being introduced and possibly implemented could be used in a couple of ways. Those involved such as developers, advocates, evaluators, and those using or being influenced by changes suggested would have periodic information about how the change is being accepted. This information could be valuable in taking various actions to obtain broader or stronger acceptance or alter the proposed change to make it more compatible with various expectations of those involved. Secondly, such process information could be valuable in the event other changes were introduced. Over time, certain general influences might become apparent with particular types of changes in certain situations.

This concern for devising methods of obtaining information about the acceptance of a change during its introduction and implementation is what led to the information presented in this paper. The paper reports the development, use, and results of one of several methods used to collect process data in a two year case study of the implementation of an innovation in six

high schools. (See Kester and Howard 1975 for a detailed report of this case study.)

OBJECTIVE

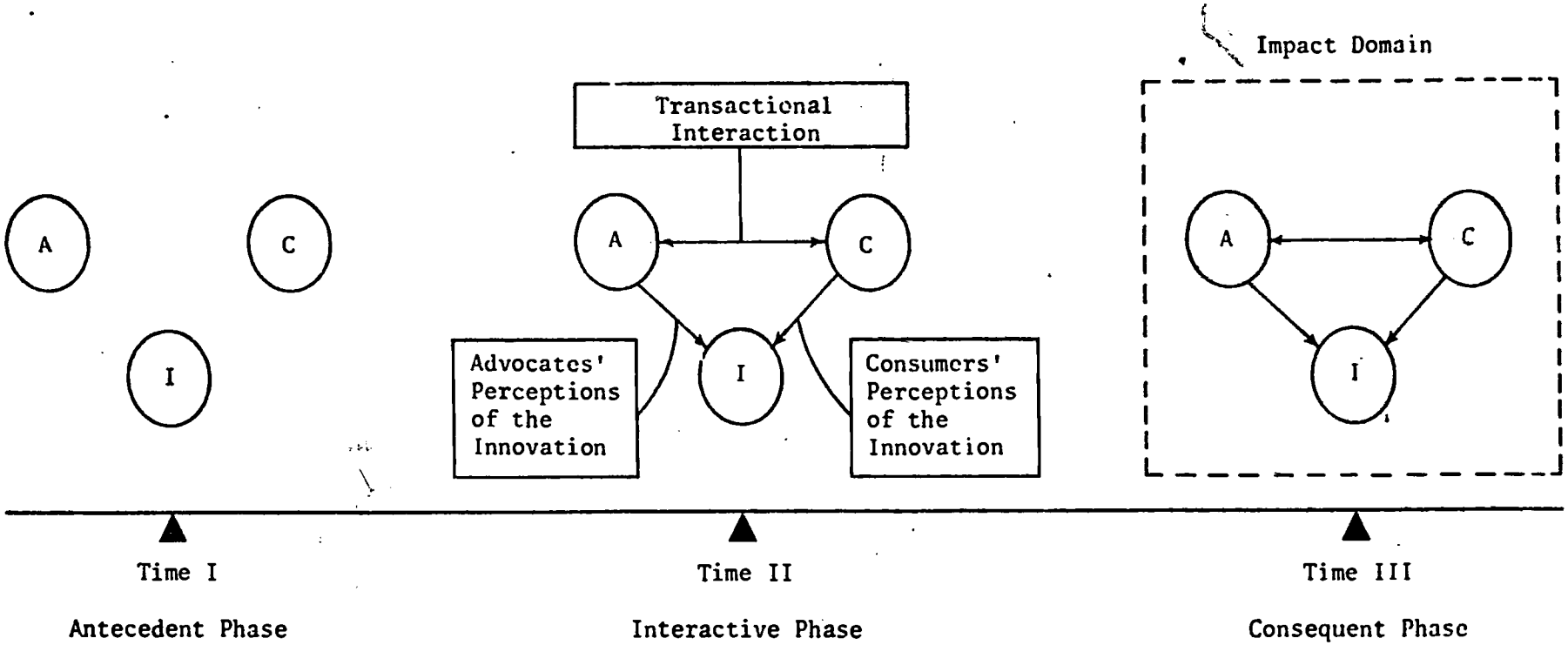
The objective of the survey reported here was to assess what the faculty and staffs of the six high schools were doing and feeling about an innovation which was being trial tested in their respective schools. The assessment was viewed from two perspectives: (1) Was there any measurable shift in opinions toward the innovation within a year's time? (2) Were there any relationships between various individual demographics and opinions toward the innovation?

CONCEPTUAL FRAMEWORK

To better understand the objective of the information presented in this paper, it is probably helpful to know how the change process was viewed by the researchers. The conceptual model used to guide the study suggested that change occurs as a result of the interaction of advocates, consumers, and the change itself (the innovation). Furthermore, change in organizations occurs in phases such as initiation, implementation, and incorporation (Giacquinta 1973), and is influenced by a multitude of factors associated with the triad of advocates, consumers, and the innovation, as well as the setting of which this triad is a part (Hull, et al., 1973). One of the most critical aspects of influence is what the potential users are feeling or doing about the change (innovation). Figure 1 graphically represents the basic elements involved in this view of how change occurs. Since this model is explained in more detail in previous books or papers, only a summary will be provided in this paper (see Hull, et al., 1973; Kester and Hull, 1974; Kester and Howard, 1975).

FIGURE 1*

Timed Sequence of the Elements and Phases of a Change Process



Key

A - Advocate(s)
C - Consumer(s)
I - Innovation(s)

*Kester and Howard, 1975, p. 9.

The underlying structure of this framework is grounded in basic social change theories which define change in terms of cognitive, affective, or behavioral terms (Kiesler, et al., 1969). Another underpending theoretical assumption of the adoption process framework is that social change and, more specifically, educational change necessitates the interaction of individuals. The fact that individuals are part of a group or organization or some other social arrangement only suggests other factors which should be taken into account when attempting to assess individuals' response to a change attempt.

The structural aspects of the conceptual framework define the basic elements which are assumed to be antecedent to any given change attempt. Three such structural elements are identified: the innovation, the advocates, and the consumers.

The innovation (i.e., the idea or program which is not being used by at least some individuals in a given school setting) could be an idea, a program, a set of materials, some kind of equipment, or a rather extensive system of procedures and materials. In the case of this study the innovation was a process defined by a set of guides. This is more carefully explained in the Methods and Procedures section.

The second antecedent element is an individual or group which is suggesting or supporting the use of the innovation. These are labeled advocates. In addition to the developers, advocates in this study were found in the ranks of administrators, teachers, or other persons who had been designated or had accepted the responsibility of promoting the use of the innovation.

The third antecedent element is the individuals or groups who are intended to implement the innovation. These individuals are referred to as consumers. The consumers of an innovation are generally defined in terms of the intended

users of the innovation, but as an innovation is introduced in a given setting, others not previously identified as intended users may become, at least in part, potential or actual users. In this case study the faculty and staff of the high schools were the primary consumers. Others, however, such as central administrators and some community members, could have been also classified as consumers. This meant that some advocates were consumers and visa versa.

Once the innovation, advocates, and consumers are identified, the process of change can be explained further by referring to an interaction phase (Figure 1, Time II). This phase is characterized by the transactions which occur between advocates and consumers as they communicate about the innovation. The advocates formulate and initiate strategies (sequences of actions) based on their perceptions of the innovation and of the consumer. The consumers respond or initiate counter strategies based on their perceptions of the innovation and the advocates. This is not to say that consumers are always in a reactive role. At times the consumer may initiate contact with an advocate. For example, a consumer may perceive the need for some type of change and seek out the assistance of some individual or agency to resolve the problem. This example reveals some of the complexity and thus difficulty for any inquirers in their attempt to audit and account for important influences in a change attempt. In the case reported here, a few of the consumers in the organizational hierarchy decided that the innovation would be good for their respective schools. Other consumers were eventually consulted, but it was perceived as mostly fait accompli.

Change, under this framework, is defined as the perceived impact, or effects on the consumer, innovation, advocate, or any relationship between the three (Figure 1, Time III). Theoretically, change can occur at any point

in time after the three antecedent conditions begin to interact. The perceptions of impact or effect can be from the viewpoint of the advocate, the consumer, or some other observer.

To get a full picture of what is transpiring in a change attempt, one must take a position as to what the intended change was perceived to be, and yet observe unintended consequences which may occur. This implies that observations will be made over a period of time and that information will be consciously and systematically compiled about all aspects of the particular change attempt in question.

The assumption that change involves an interaction between advocates and consumers implies a continuum of time and also suggests the possibility of stages of adoption. Rogers and Shoemaker (1971) and others have suggested and given support to the observation that individuals (consumers) go through various stages as they respond to innovations. Rogers labels these as: (1) awareness, (2) interest, (3) mental evaluation, (4) trial, and (5) adoption or incorporation. The number, sequence, or labeling of the stages for individual adoption are not firmly based. Zaltman, et al., (1973) summarizes seven conceptual ideas concerning individual stages of innovation adoption. The important point is that the use of conceptual stages of adoption is helpful in discussing the interaction and time aspects of the adoption process.

The stages of adoption have also been conceptualized in organizational terms. Zaltman, et al., (1973) summarizes five conceptual models of organizational stages of innovation adoption. Giacquinta (1973), in particular, suggested that organizations as collective sets of individuals go through three identifiable stages in the adoption process. These he labeled: (1) initiation, (2) implementation, and (3) incorporation. Such constructs are useful when describing the sequence of events through which an organization passes in the adoption process.

During the transactions between advocate and consumer, numerous factors have potential influence. Three distinct sets of influences are explained: (1) situational or circumstantial; (2) who the advocates and consumers are and what they do; and (3) characteristics of the innovation. Situational or circumstantial factors include various political influences, financial decisions, and natural events which occur during or as a result of the intervention of an innovation or those associated with it. Corwin (1973) and Hage and Aiken (1970) provide illustration of the nature and affect of organizational characteristics on the innovation adoption process.

Who the advocates and consumers are and what they do has a major potential influence on the acceptance process. Theoretically, the actions and reactions of advocates and consumers can be described in terms of three types: (1) informative, (2) persuasive, and (3) coercive (Kester and Howard, 1974; and Hull and Kester, 1975). These categorical types are relatively consistent with those used in other conceptual discussions about actions of and responses to change (Zaltman, et al., 1972; Hornstein, et al., 1971; and Bennis, et al., 1969). In practice, few actions or reactions by either advocates or consumers are likely to be one type. They are likely to be combinations of the three types in differing amounts. From the advocate's viewpoint, these tactics are employed to maximize the chance for successful adoption. From the consumer's viewpoint these tactics are used to insure the acceptance of change which is meaningful and/or advantageous. In some cases, for the consumer, this would mean resisting the acceptance of certain parts or all of a particular innovation.

The third set of influential elements of any change attempt is the characteristics of the innovation itself and the reactions of the advocates and consumers to those characteristics. Innovations consist of two subsets of

characteristics: (1) types and (2) perceived attributes (Zaltman, et al., 1973; Hull, et al., 1973). The "types" of innovations are three: an idea in the form of a written or verbal comment; an instructional package, instructional tool, or management product, which can be independently used by one practitioner (e.g., text books, reading or mathematics labs); or an instructional or management system, product or program which requires the interdependency of several individuals in order for it to function properly (e.g., program planning and budget system, team teaching, and individual instruction). As previously mentioned, the innovation observed in this study was of the latter type.

The "perceived attributes" of the innovation can be observed and discussed in terms of six categories (Kester and Hull, 1973).* Each category is similar to a dimension of the innovation as it is viewed by the consumers. Hall (1974) discusses attributes similar to these as concerns on the part of the consumers. Brickell (1969 and 1971) discusses the effect of innovation characteristics similar to some of the categories mentioned here.

The first category is the degree to which the content and purpose of the change are seen as relevant to the needs of the consumers (e.g., teachers and administrators) and of the students they serve. The second category is the extent to which the innovation requires additional resources for the purpose of implementation. This refers to the people, time, and money, beyond that which are presently available or able to be reallocated. The degree to which the innovation contains values which are preceived as contrary to those values of the consumer population is the third category. The fourth category is the "consumer report rating." This refers to a number of aspects such as: Is the innovation perceived as tested? Do the consumers feel as though the developers guarantee success? Is the innovation seen as cost effective?

*Other categorizations do exist: Zaltman, et al., 1973; Rogers and Shoemaker, 1971; and Hull and Wells, 1972.

A fifth category is "credibility." "Credibility" is assumed to be a function of the consumer's respect for the organization or individual who produced the change, and of the organization or individual proposing the change. The sixth and final category of "perceived attributes" concerns the extent to which the innovation requires organizational changes such as the reallocation of time, personnel, and money.

An individual's response to an attempt to cause him/her to change or adopt a certain idea or program naturally can vary from such responses as ignoring the existance of the change, to actively resisting, to supporting or actively becoming involved. This paper focuses on the consumer's response to the innovation. Not so much in terms of the types of actions they took, but rather what consumer's did and were feeling about the innovation. It is through this kind of information we can better interpret and make more sense out of change attempts.

Basically, there are a limited number of categories of response to an innovation. For example, the consumers may become informed about the innovation, they may involve themselves, they may have attitudes toward various aspects of the innovation or they may have certain expectations for the innovation. Being informed, involved, forming and expressing attitudes, and developing expectations are all part of what is referred to as the consumers response to the innovation.

Since these categories of consumer response are more carefully explained in the Methods and Procedures section, let me re-emphasize here that this paper reports an effort to record responses of consumers to an innovation as it was being introduced to them. Therefore, only a small part of the total conceptual framework, as discussed, was covered by the work reported in this paper. You will recall that we mentioned earlier in the paper that this

paper covered only part of a more comprehensive effort to describe the process of adoption of an innovation introduced into six high schools.

In summary, the conceptual framework which guided the study views the process of change in three basic phases. First, there is an antecedent phase which necessitates the coming together of an advocate with an innovation designed for some set of consumers. Once these conditions are in existence, the process of change enters an interactive phase in which advocates and consumers communicate about the content of the innovation. The third phase, the consequent or impact phase, really overlaps the interactive phase and consists of the effects or consequences of the interactive phase.

During the interactive phase, the framework suggests that individual consumers and organizations of consumers go through stages of adoption which are relatively independent. As the advocates and consumers are interacting and proceeding through the various stages of the adoption process, the framework further suggests that a variety of influences are brought to bear on that relationship. Some of these influences are seen as part of the contextual or situational circumstances; others are viewed as being associated with aspects of the innovation itself; still others are seen as a result of the actual interaction between the advocates and the consumers. Using this framework helps focus attention on a rather comprehensive set of potential influences on the adoption of innovations in education. It also assists in categorizing the various aspects of the change process such that focus can be brought to bear on parts which conceptually can be then integrated into the whole. The remainder of this paper explains one of those parts..

METHODS AND PROCEDURES

There are a variety of ways of collecting opinions. One of the most efficient means is through the use of paper and pencil surveys. Such surveys can be developed and then administered at various times to determine shifts in opinions about comparable items and concepts. Surveys can be administered with little involvement of time compared to a participant observation format or even interview techniques. Surveys, unlike some direct observational techniques, also have the capacity of uncovering latent (unobservable or nonverbal) norms, statuses, or opinions (Zelditch, 1969). It will be explained in the Findings section how this characteristic of surveys became important in this study. The major limitation of surveys is that they represent partial responses to fairly specific aspects of a problem. Also, if there are a large number of respondents, the data may require computer analysis.

The important point to remember is that in the overall study of the change attempt reported here, the survey was only one of several methods used to gather data about opinions and actions of the participants. Taken in this light, the survey technique is a valuable tool for gathering information about the response of participants to an innovation.

The innovation which was observed was a package of guides consisting of questionnaires, procedural steps, and other information designed to assist high school personnel in developing, implementing, and evaluating or upgrading their career guidance program. Operationally, it involved over 60 percent of the faculty and staff of the schools in addition to several community persons. Time was alloted for the program over a two-year period in each school. The activities took place within the context of six modules. A synopsis of each module is provided below:

Module 1 - acquire knowledge of the process; organize personnel to accomplish prescribed developmental tasks.

Module 2 - identify student career guidance needs; determine available resources; translate student needs into program goals; tentatively assign priorities to program goals.

Module 3 - verify program goals and priorities assigned to goals.

Module 4 - derive behavioral objectives for student and adult actors from program goals assigned highest priorities.

Module 5 - select or develop and install optional career guidance methods which will enable students to achieve objectives. Plan and conduct product and process evaluation of selected career guidance methods.

Module 6 - install and operate continuous context evaluation system.

The fact that the innovation was rather comprehensive in its contact with school personnel and its intent on influencing the total curriculum* of the school necessitated that a majority of the faculty and staff be positive toward it. This fact strengthened the importance of periodically gathering some type of data which would reflect where the faculty and staff stood with respect to the innovation.

Three basic areas of response to the innovation were considered: (1) involvement in or exposure to; (2) attitudes toward; and (3) expectations for the innovation. These three areas were selected mainly on the basis of logic.

Once the conceptual areas were established, items were developed by development field representatives in each of the schools, selected persons on the development staff, and the researchers doing the study. Other than the three conceptual areas of response, there was no a priori conceptual scheme used to generate items. However, the researchers did use understandings on response to innovations from sources such as Watson's (1969) concepts

*Although career guidance can certainly be carried out by a small select group of individuals within a school, the attitude of this innovation was that career guidance activities become an integral part of all subjects. The innovation also expanded the outreach of career guidance activities into the community, hence the community representatives.

of "Resistence to Change;" a synthesis of concepts in a program entitled "Evaluating the Process of Education Change" (1973 version); and concepts concerning "perceived attributes" of innovations previously described in the conceptual framework.

Once collected, the items were edited, some eliminated for reasons of duplication or consistency with the category, by the research staff. The readability of the survey was determined through the use of the Dale and Chell formula (Dale, 1949). It was found to be in the range of the upper high school grades which seemed to be reasonable for the respondents.

The involvement scale was developed as a Thurstone-type weighted checklist. Weights concerning the extent of exposure to the innovation reflected by each of the involvement items were determined by a selected set of developers and field site representatives. The attitude and expectation items were put into a Likert-type format with five response categories.

A draft of the survey was pilot tested with 106 respondents from two of the six sites in which the innovation was being introduced. The attitude and expectation items were each factor analyzed using a principal component analysis with the input matrix as the sum of the cross products of the raw scores among the subjects. The involvement scale was assumed to be unidimensional and was defined as: "The amount of exposure or contact an individual has had [with the innovation] in terms of the number of [innovation] activities in which they have been involved." (Kester and Howard, 1975, p. 31.)

A four factor varimax rotated solution accounting for .61 of the common variance was selected for the attitude items. The labels and definitions of these factors were as follows (Kester and Howard, 1975, p. 30-31):

1. Appropriateness - The extent to which the innovation was perceived as relevant to and consistent with the goals and objectives of the school's students, and general philosophy.

2. Technical Adequacy - The extent to which the materials, procedures, purpose, validity and other technical aspects of the innovation were perceived as meeting the faculty's and staff's expectations of professional quality and understanding.

3. General Support - The degree to which it was perceived that various segments of the school community (e.g., faculty and staff, school counselors, administration and school board) were supportive of the innovation.

4. Personal Relevance - The degree to which the innovation was perceived by individual staff members to be consistent with their personal and professional goals.

A three factor varimax rotated solution accounting for .72 of the common variance was selected for the expectation items. The labels and definitions of the three factors were as follows:

1. Better Guidance - The expectation of the innovation helping students make better career decisions by providing more time and better techniques for dealing with guidance needs.

2. Change of Roles and Relationships - The expectation that the innovation will change the way individual teachers and others view their roles and responsibilities relative to the school guidance program.

3. Efficient Use of Existing Resources - The expectation that the innovation will not be cumbersome and will assist in identifying resources and using those expeditiously to provide guidance services.

Once the survey tool was divided into the eight subscales, it was administered three times within one school year to randomly selected samples of the faculty and staffs of the high school sites in which the innovation was being introduced. A listing of the items in each subscale is provided in Attachment A. The first administration was to a 25% random sample in each of the schools during the fall. The subscales were further refined with data from this sample through the use of an item analysis. The second administration was to a 50% random sample in each of the schools during the winter. In the spring, the survey was again administered, this time to all the faculty

and staff of the six schools. Return rates varied from 47% of those sampled to 100% of those sampled. Generally, the return rate was over 65%. Reliability coefficients (internal consistency) were calculated for each subscale after each administration. Both Kuder Richardson-Formula 8 and Alpha coefficients were used. No coefficients among the scales and administrations were less than .62 and most were above .80 and several above .90.

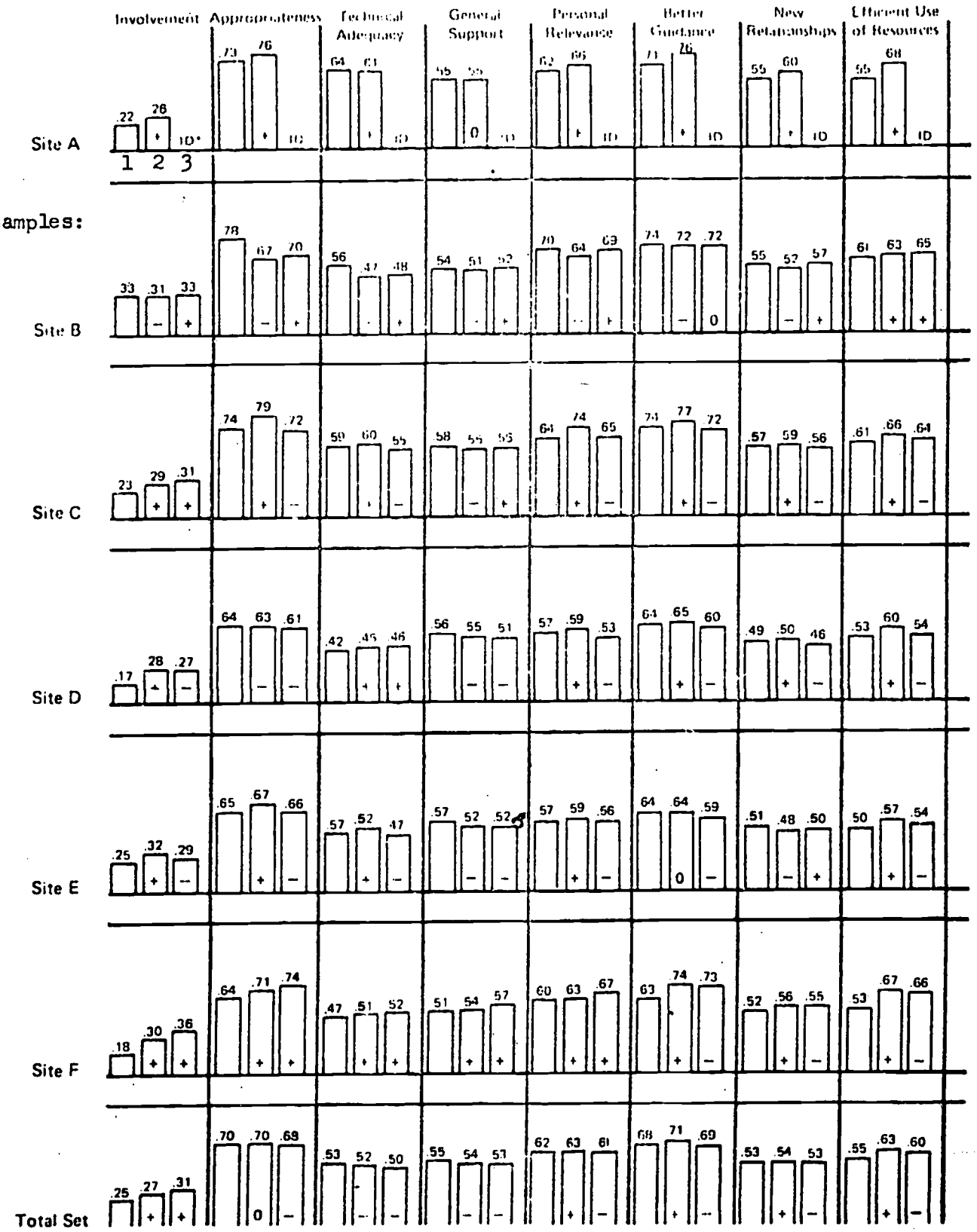
The data were analyzed in two basic ways. One was to calculate an adjusted mean score for each of the subscales for each school and administration (Table 1). This data display answered the question: Was there any measurable shift among the schools with respect to the involvement in or opinions about the innovation? Secondly, correlational analyses were used to determine whether there were any relationships between various individual demographics of the faculty and staff and the eight subscales across the six high schools (Table 2).

FINDINGS

It was found that there were measurable differences among the eight subscales and among the six sites within the three administrations of the survey (Table 1). Involvement generally increased but was relatively low compared to the potential. Appropriateness of the innovation for the school settings were rated comparatively higher than "Technical Adequacy," "General Support," or "Personal Relevance." This data corresponded with interview data and other observational records kept on the reactions of the faculties and staffs. It seemed as though many faculty and staff members felt the purposes of the innovation were viable but that the materials and procedures were not leading them to the expected outcomes. Also, the data suggested the support for the innovation was possibly not strong enough to continue its purpose. There was considerable variance of opinion among the faculty and staff of the schools as to whether the innovation had meaning to their personal roles.

TABLE 1

Adjusted Mean Score Rating of the Eight Survey Subscales for Each Site and Three Administrations***



* ID - Insufficient Data

** The +'s, 0's, or -'s refer to gains, staying the same, or losses with respect to each previous sample rating

*** Kester and Howard, 1975, p. 116.

TABLE 2

Correlations of Biographical Demographics
with the Survey Subscales*
(Samples 1, 2, & 3)

Demographics	Involvement r[a]	Involvement b[b]	Appropriateness r	Appropriateness b	Tech. Adequacy r	Tech. Adequacy b	Gen. Support r	Gen. Support b	Personal Rel. r	Personal Rel. b	Better Guidance r	Better Guidance b	New Roles r	New Roles b	Eff. Use of Rec. r	Eff. Use of Rec. b
Age	.18	.25	.26*	.25	.29**	.20	.18	.26	.24*	.23	.24*	.23	.17	.14	.14	.19
	.14	-.08	.10	-.04	.08	-.14	.15	.06	.20	.04	.11	.05	.17	.12	.10	.04
	.04	-.14	.04	-.07	.05	-.10	.05	-.09	-.01	-.26*	-.03	-.17	-.06	-.11	-.02	-.15
Sex	.00	-.06	.08	-.03	.07	.09	-.21*	-.23*	-.01	-.12	.03	-.14	-.12	-.20	-.03	-.07
	-.12	-.09	-.01	-.04	.08	.03	.02	.06	-.10	-.13	.00	-.03	-.00	-.05	.00	-.03
	.06	-.09	.04	.00	.09	.09	.05	.02	.05	.02	.12	.12	.08	.08	.12	.06
Ethnic Class																
Black	-.01	.14	.00	.17	.12	.06	.02	.54*	-.12	.39	.24*	.59*	.20	.30	.07	.12
	-.08	.27	.32**	.57	.34**	.45	.11	.16	.19*	.38	.30**	.68	.28**	.43	.24**	.43
	.19**	.24	.32**	.36**	.36**	.37**	.20**	.33*	.25**	.33*	.32**	.25*	.23**	.16	.33**	.34**
White	.05	.17	.04	.18	-.09	.01	-.01	.26	-.07	.19	-.18	.27	-.20	-.07	-.06	-.03
	.13	.16	-.18**	.37	-.26**	.16	-.07	.02	.11	.18	-.15	.40	-.19**	.17	-.13	.21
	-.10	.13	-.18**	.13	-.25**	.08	-.07	.13	-.09	.14	-.19	.02	-.19*	-.02	-.19*	.10
Area of Responsibility																
Administration	.11	.22	.25*	.18	.15	.15	.32**	.25	.14	.14	.14	.10	.12	.04	.35**	.40*
	.26**	.29	.07	.07	.12	.10	.07	-.04	.03	.01	.02	+.04	-.01	.08	.03	.05
	.01	.08	-.08	.05	-.04	.05	-.04	.17	-.14	.04	-.06	.06	-.01	.03	-.04	.06
Supervision	-.08	.08	-.06	-.12	-.03	-.03	.05	.03	.02	-.03	.00	-.10	-.06	-.14	.12	.02
	.10	.08	-.11	-.10	-.06	-.07	-.05	-.07	-.11	-.10	-.10	-.02	-.10	-.08	-.07	-.05
	.12	.12	.08	.16	.11	.10	.16*	.41**	.10	.23	.13	.29*	.16*	.21	.19*	.31*
Counseling	.39	.18	.14	-.06	.18	.03	.10	.09	.08	.03	.11	-.07	.06	.02	.18	-.04
	.20*	.14	.11	.08	.10	.00	.02	-.13	.09	.02	-.00	.02	.00	.02	.08	.05
	.07	-.01	.05	.06	.05	-.00	.05	.33*	.02	.08	.04	.16	.01	-.05	.03	.07
Teaching	-.26*	-.14	-.24*	.24	-.20	-.09	-.20	.07	-.12	-.26	-.17	-.32	-.13	-.23	-.37**	-.36
	-.24**	.26	-.08	.10	-.13	.06	-.05	.03	-.06	.05	-.00	-.03	.02	.12	-.05	.05
	-.13	.26	-.07	.44	-.11	.18	-.02	.75*	-.02	.64	-.06	.51	.09	.15	-.09	.37
Grade Taught																
None	-.21*	-.03	-.19	-.01	-.17	.02	-.24*	-.24	-.08	-.03	-.11	-.02	-.11	-.11	-.21*	-.01
	-.31**	-.34	-.06	-.07	-.10	-.20	-.04	-.12	-.04	-.10	.05	.02	.02	-.11	-.04	-.14
	-.12	-.45	-.10	-.34	-.11	-.36	-.03	-.42	-.07	-.39	-.06	-.13	-.07	-.13	-.07	-.12
8th	.70**	.47**	.22*	.15	.29**	.21	-.10	-.36*	.11	-.29	.13	-.21	-.09	-.52**	.10	-.03
	-.15	-.19	.08	-.04	.04	-.16	-.19*	-.23	-.11	-.23	-.03	-.17	.05	.08	-.00	-.08
	.06	.04	.03	-.02	.13	.06	-.13	-.18*	-.03	-.09	.01	-.04	-.01	-.01	-.10	-.10
9th	.47**	.20	.06	.06	.17	.19	.02	.11	.13	.12	.18	.22	.08	.22	.02	.08
	-.13	-.04	.19*	+.03	.24**	.23	-.04	.02	.11	.16	.12	.08	.14	.06	.05	.00
	-.02	-.03	.05	.07	.12	.12	.05	.11	-.05	-.02	-.05	-.06	-.03	-.02	-.10	-.10
10th	.45**	-.03	-.05	-21	-.11	-.30	-.13	.11	.12	.22	.02	.06	-.05	.09	-.10*	-.08
	-.23**	-.08	-.04	-.00	-.01	-.07	-.03	-.03	.04	.10	.20*	.20	.17*	.22	.20	.30
	.00	.16	-.05	.05	-.09	.00	-.03	-.05	-.11	-.06	-.08	-.08	-.02	.05	-.00	.06

TABLE 2: Correlations of Biographical Demographics with Survey Subscales (cont'd.)

Demographics	Involvement r[a]	Involvement b[b]	Appropriateness r	Appropriateness b	Tech. Adequacy r	Tech. Adequacy b	Gen. Support r	Gen. Support b	Personal Rel. r	Personal Rel. b	Better Guidance r	Better Guidance b	New Roles r	New Roles b	Eff. Use of Rec. r	Eff. Use of Rec. b
Grade Taught (cont'd.)																
11th	.36**	.11	.09	.35	.07	.37	-.13	-.00	.13	.15	.05	.02	-.07	.10	-.03	.06
	-.11	-.02	-.01	.18	-.05	.16	-.04	.10	-.01	.09	.10	.18	.04	-.02	-.00	.09
	-.03	.02	-.08	-.05	-.01	-.00	.04	.06	-.12	-.21	-.10	-.14	-.08	-.04	-.10	-.14
12th	.26*	.21	-.02	-.10	-.08	-.31	-.05	.19	.17	.18	.12	.25	.04	.22	-.00	.21
	-.06	.23	-.17	-.24	-.19	-.16	-.17	.22	-.14	-.17	-.10	-.17	-.03	-.01	-.13	-.23
	.02	.11	-.04	.08	.06	.21	.07	.12	.00	.19	-.05	.08	-.07	-.00	-.06	.06
School Tenure	.11	.10	.18	.06	.24*	.18	-.02	-.39	.23*	.00	.22*	.03	.18	.04	.08	-.05
	.19*	.17	.14	.01	.13	-.00	.17	.19	.24**	.20	.17	.17	.20	.15	.20	.15
	.14	-.08	.15	.13	.21*	.19	.13	.35*	.15	.07	.12	.25	.07	.30	.11	.31*
Professional Tenure	.09	-.27	.14	-.17	.23*	-.23	.06	.17	.22*	.04	.20	-.13	.18	-.02	.07	-.14
	.19*	-.01	.15	.11	.17	.19	.12	-.07	.20*	-.03	.11	-.10	.13	-.09	.17	-.01
	.18*	.26	.10	-.05	.17*	-.05	.06	-.29	.12	.14	.04	-.16	-.01	-.25	.03	-.24
Area Taught																
Voc/Tech	-.09	-.09	.11	.13	.09	.15	-.05	-.09	.11	.14	.09	.06	.00	.00	-.03	.00
	.01	.11	.05	-.00	.05	.01	-.09	-.05	.06	.14	.10	.13	.08	-.07	.03	.09
	-.05	.02	.03	.01	-.02	-.11	.03	-.11	.05	.07	-.02	-.09	-.04	-.09	-.02	-.06
Practical Arts	-.05	-.17*	.04	.07	.19	.19	.10	.06	.15	.19	.14	.11	.22*	.22	.11	.13
	.06	.10	.09	.07	.04	.09	-.01	-.00	.11	.15	.05	.06	.07	.03	.02	.05
	.08	.09	-.03	-.05	.05	-.04	.00	-.09	-.03	-.04	-.01	-.06	.05	-.00	.04	.01
Humanities	-.01	-.05	.08	.14	.12	.15	-.02	-.07	-.02	.10	-.04	-.02	-.11	-.10	.04	.08
	-.08	.09	-.20*	-.16	-.13	-.07	-.05	-.03	-.10	.05	-.20	-.02	-.15	-.07	-.08	.06
	.00	.12	-.08	-.05	-.04	-.09	.01	-.11	.00	.02	-.15	-.20	-.06	-.09	-.08	-.10
Science/Math	-.05	.13	-.25*	-.01	-.29**	-.07	-.30**	-.34**	-.14	.03	-.24*	-.14	-.10	-.06	-.22*	-.05
	-.07	.02	-.05	-.13	-.11	-.14	.04	.03	-.04	-.01	.02	.02	-.06	-.09	.03	.06
	.03	.06	-.04	-.05	-.10	-.15	-.15	-.20	-.06	-.02	.06	-.01	-.04	-.09	-.04	-.07
P.E.	-.06	-.05	.00	.03	-.10	-.06	.05	-.02	-.03	.01	-.07	-.08	-.08	-.07	.01	-.04
	.01	.10	-.04	-.04	.00	.02	.01	.05	-.05	-.01	-.03	-.00	-.05	-.05	-.06	.02
	-.15	-.11	.00	-.01	-.01	-.05	.07	-.02	.00	.01	.07	.01	.07	.02	.07	.02

a. r = Correlation coefficient

b. b = Standardized regression coefficient

* Kester and Howard, 1975, pp. 203-204.

The expectations for the innovation were more for "Better Guidance" than for the possibility of "New Relationships" or "Efficient Use of Resources." The hope was that the innovation would lead to better guidance procedures but other important outcomes of the innovation such as new roles and relationships concern the school's guidance program and a more efficient use of resources did not appear to be salient potential outcomes. This reaction seemed to reflect a level of uncertainty about what the innovation was exactly designed to accomplish.

Zero-order correlations and standard regression coefficients were used to determine the relationships between individual demographics of the faculty and staffs of the schools and the eight subscales of survey (Table 2). Although eight pieces of demographic data were collected, only one was found to elicit a consistent relationship across the three administrations and sites. This demographic was ethnic class. Black faculty and staff were found to be more involved, had more positive attitudes toward, and greater expectations for the innovation than their white counterparts. No clear explanation for this relationship exists from the data gathered. There is some support, however, for why this may have been the case. Haberman and Stinnett (1973) in discussing the attitudes of minority students coming into teacher education may provide the basis for an explanatory proposition. They stated that:

> More and more students who are members of minority groups are coming into teacher education. Many of these individuals feel that they and their fellow group members have been hurt by poor teachers who didn't give them basic skills. Competency-based teacher education seems to these students to be a more hopeful measure of guaranteeing that teachers who do not demonstrate minimum proficiencies will no longer be certified and inflicted on minority pupils (p. 102).

What these authors may be saying is that minority groups, and blacks in this case, feel that educational innovations which seem to have the potential of making schools and especially their white counterparts more accountable to

students are seen as most promising. Since the innovation in this study was perceived as student-oriented in its potential outcomes and as a system which advocated accountability for the school, it would seem to fit the type of innovation suggested in this proposition. This might explain why blacks seemingly were more involved in, had more positive attitudes toward, and had greater expectations for the innovation than their white colleagues.

CONCLUSION

Efforts such as this must become routine aspects of the introduction of innovations into educational organizations. As suggested at the outset of this paper, information about factors influencing the process of innovation adoption becomes critical to the success of the innovation in question, as well as, the introduction of subsequent innovations. Such process information is valuable to developer, evaluator, advocate, and consumer in their attempts to understand and respond to the innovation. This paper has shown that such data can be collected rather efficiently. Such survey data, along with other more direct data such as observational or interview data, can combine to provide a rather clear picture as to what aspects of the innovation are being accepted and those that may be causing confusion. Hopefully, such evaluation efforts will result in information which will both result in the development of more effective innovations, as well as better means of responding to change in educational organizations.

ATTACHMENT A

Listing of Items for the Eight Subscales of the Survey*

I. Involvement Items (Thurstone weighted scale)

___ I have provided information for the Operation Guidance project.

___ I have discussed Operation Guidance with persons other than my colleagues (parents, friends, etc.).

___ I have been or am the chairman of a task force.

___ I have attended a school board meeting where they have discussed Operation Guidance.

___ I have recommended persons (colleagues, parents, or students) to serve on a task force.

___ I have asked for additional information concerning Operation Guidance.

___ I have tried to convince a colleague that Operation Guidance would be needed for this school.

___ I am or was a member of the Advisory Committee.

___ I have been at a department meeting where Operation Guidance was discussed.

___ I have provided information about Operation Guidance to students.

___ I have released students from my class to work on task forces.

___ I attended an orientation meeting concerning Operation Guidance.

___ I am or have been a member of the Steering Committee.

___ I have discussed Operation Guidance with my colleagues other than in a meeting scheduled for that purpose.

___ I have been on the following task forces (please check the names of the task forces):

___ Data Collection Task Force

___ Data Analysis Task Force

___ Data Interpretation Task Force

___ Behavioral Objectives Task Force

___ Resource Identification Task Force

___ Methods Analysis Task Force

___ Context Evaluation Task Force

___ Other (specify)

*The items were listed on the actual survey within the three broad categories of Involvement, Attitudes, and Expectations. Within these categories the items were listed in random order; not identified with the factors.

II. Attitude Subscales and Items*

A. Appropriateness

A system like Operation Guidance is something we have needed for a long time.

The Operation Guidance system provides an excellent opportunity for our total staff to explore some important aspects of our school's goals.

- Operation Guidance really has no attainable goals.

- Operation Guidance is not appropriate for our school.

- Our present guidance program does not need the Operation Guidance system.

- I feel it is unwise to attempt to adopt a system such as Operation Guidance at this time.

B. Technical Adequacy

- The ultimate purpose of Operation is not clear to me at all.

- At this time, the faculty/staff can be characterized as being rather passive in their reactions to Operation Guidance.

- I don't understand the Operation Guidance orientation and materials.

- Operation Guidance has not met my expectations at this time.

- Operation Guidance procedures and materials are too wordy, cumbersome, repetitious, and awkward to use.

- Innovations have come and gone; Operation Guidance will fall into the same pattern.

C. General Support

The fact that Operation Guidance was developed at a national research and development center will assist in its acceptance.

Operation Guidance is strongly supported by parents and the community.

Most of the faculty/staff members that I know are supportive of Operation Guidance.

Operation Guidance is strongly supported by the administration of the school.

- Operation Guidance specifies too many time-consuming, clerical tasks for teachers.

*A dash (-) by a particular item indicates a negative relationship with the factor and was scored in reverse.

All of the school's counselors are supportive of Operation Guidance.

D. Personal Relevance

Operation Guidance is a very exciting and challenging project.

Operation Guidance has caused me to become more aware of the role of career guidance in the school.

Operation Guidance provides a means for better accomplishing some of my own professional goals.

Operation Guidance makes sense to me.

Operation Guidance touches on some areas that are of great concern to me.

III. Expectation Subscales and Items

A. Better Guidance

Allow us to better determine the guidance needs of our students.

Make significant contributions to present guidance procedures.

Have great potential for directing students toward worthwhile goals.

Provide a better system for meeting career guidance needs of our students.

Increase the amount of staff support for the total guidance program.

Assist students in making better career decisions.

Assist students in making better educational decisions.

B. New Roles and Relationships

Result in a better relationship between the school and parents.

Result in a better relationship between the school and the community.

Not result in anything better than we presently have in guidance.

Change my total professional role in guidance.

Change the way I look at guidance.

Result in better relationship between teachers and counselors.

C. Efficient Use of Resources

Result in some efficient uses of guidance resources.

Meet the needs of all students who can benefit from career guidance.

- Require more work than can be handled by the existing staff.

- Increase the level of responsibility of present guidance staff by involving students, other faculty, and community.

Result in the identification and use of resources which are available but not presently being used for guidance activities.

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*A dash (-) by a particular item indicates a negative relationship with the factor and was scored in reverse.

REFERENCES

Bennis, Warren G.; Benne, Kenneth D.; and Chin, Robert. The Planning of Change, 2nd ed. New York: Holt, Rinehart, and Winston, Inc., 1969.

Brickell, Henry M. "Appraising the Effects of Innovations in Local Schools." The Sixty-Eighth Yearbook of the National Society for the Study of Education, 1969.

Brickell, Henry M. "Alternative Diffusion Strategies." Paper prepared for The Center for Vocational Education, The Ohio State University, 1971.

Corwin, Ronald G. Reforms and Organizational Survival. New York: John Wiley and Sons, 1973.

Dale, Edgar. Readibility. A publication of the National Conference on Research in English. Reprinted from Elementary English (January to May, 1949).

Evaluating the Process of Educational Change. A program developed by the Model Training Project within the Evaluation Center at The Ohio State University (1973 version).

Giacquinta, Joseph B. "The Process of Organizational Change in Schools," in T.N. Kerlinger (ed.) Review of Research in Education. Itasca, Illinois: F.E. Peacock Publishers, Inc., 1973.

Hage, Jerald and Aiken, Michael. Social Change in Complex Organizations. New York: Random House, 1970.

Hall, Gene E. "The Concerns Based Adoption Model: A Developmental Conceptualization of the Adoption Process Within Educational Institutions." A paper delivered at the annual meeting of the American Educational Research Association, Chicago, Illinois, April 1974.

Hornstein, Harvey A.; Bunker, Barbara B.; Burke, W. Warner; Gindes, Marion; and Lewicke, Roy J. Social Intervention. A Behavioral Science Approach. New York: The Free Press, 1971.

Hull, William L.; Kester, Ralph J.; and Martin, William B. A Conceptual Framework for the Diffusion of Innovations in Vocational and Technical Education. Columbus, Ohio: The Center for Vocational Education, The Ohio State University, 1973.

Hull, William L., and Wells, Randall L. The Classification and Evaluation of Innovations for Vocational and Technical Education. Columbus, Ohio: The Center for Vocational Education, The Ohio State University, 1973.

Hull, William L., and Kester, Ralph J. "Innovation Characteristics Critical to the Successful Adoption of Programs in School Settings." A paper presented at the Annual Meeting of the American Educational Research

Hull, William L., and Kester, Ralph J. The Perceived Effectiveness of Diffusion Tactics. Columbus, Ohio: The Center for Vocational Education, The Ohio State University, 1975.

Kester, Ralph J., and Hull, William L. The Identification of Empirical Dimensions of the Diffusion Process: An Interim Report. Columbus, Ohio: The Center for Vocational Education, The Ohio State University, 1973.

Kester, Ralph J., and Howard, John Jr. The Adoption of Systems Innovations in Educational Organizations: A Case Study of Operation Guidance. Columbus, Ohio: The Center for Vocational Education, The Ohio State University, 1975.

Kester, Ralph J., and Howard, John Jr. "Evaluating the Process of Educational Change: A Model and Its Application." A paper presented at the annual meeting of the American Educational Research Association, April 3, 1975.

Kiesler, Charles A.; Collins, Barry E.; and Miller, Norman. Attitude Change. New York: John Wiley and Sons, Inc., 1969.

Rogers, Everett, and Shoemaker, Floyd F. Communication of Innovations. New York: The Free Press, 1971.

Watson, G. "Resistance to Change," in The Planning of Change, Bennis, et al. (eds.) New York, New York: Holt, Rinehart, and Winston, 1969.

Zaltman, Gerald; Kotler, Phillip; and Kaufman, Ira. Creating Social Change. New York: Holt, Rinehart, and Winston, Inc., 1972.

Zaltman, Gerald; Duncan, Robert; and Holbek, Jonny. Innovations and Organizations. New York: John Wiley and Sons, Inc., 1973.

Zelditch, Morris Jr. "Some Methodological Problems in Field Studies," in McCall, George J. and Simmons, J.L. (eds.) Issues in Participant Observation: A Text and Reader. Reading, Massachusetts: Addison-Wesley Publishing Company, 1969.