ABSTRACT
                Researchers in the Procedures for Adopting
Educational Innovations Program at the University of Texas have
developed an "Intervention Taxonomy" to help classify and define
interventions and components of interventions. It is hoped that this
taxonomy will enable change facilitators and researchers to make
conceptual and operational distinctions among actions and events that
influence innovations. Data were obtained from descriptive protocols
developed by ethnographers observing interventions over a two- to
three-year period in school systems undergoing change. The data have
been the subject of quantitative and qualitative analyses. As well as
providing definitions, the taxonomy identifies several levels of
intervention from policy level down to incident level. A distinction
is made between sponsored and unsponsored interventions and their
components. Implications drawn from the study are that (1) a change
effort succeeds or fails at the incident (lowest) level, (2) the
"game plan" for a change effort should be specified in detail and in
advance, (3) how long unplanned influences on the change effort are
allowed to continue is directly related to the skill of the change
facilitator, (4) developing stereotypic names to classify
interventions may be useful, and (5) coding systems for other levels
of interventions may be useful. (Author/JM)

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# A TAXONOMY OF INTERVENTIONS:

## THE PROTOTYPE AND INITIAL TESTING

Gene E. Hall

Patricia K. Zigarmi

Shirley M. Hord

Procedures for Adopting Educational Innovations Program
Research and Development Center for Teacher Education
The University of Texas at Austin

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G. Hall

# A TAXNOMY OF INTERVENTIONS:

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## BACKGROUND

### Introduction

Organizational change is a complex phenomenon which tends to be little

understood by individual participants, researchers, or theoreticians. Most

agree that change is a process rather than an event which takes place at a

single point in time. How that process takes place over time is just begin-

ning to be systematically and rigorously studied and described. However, even

among those who are responsible for change efforts in schools or who are

involved in analyzing change processes, few are willing, as yet, to recommend

how it could be "controlled," "managed," or "facilitated."

The Procedures for Adopting Educational Innovations (PAEI) Program makes

the assumption that, ultimately, the change process can be understood and that

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with this knowledge purposeful actions can be taken by change facilitators to assist participants in the change process. This information would include meaningful data about the participants, the innovation and the context in which change is taking place. In earlier research, the program has been able to identify developmental Levels of Use (Hall, Loucks, Rutherford, & Newlove, 1975) and Stages of Concern (Hall & Rutherford, 1976) characteristic of individual users of an innovation as they experience the change process in educational settings. Past research has also analyzed the different configurations, or forms, of the selected innovation (Hall & Loucks, 1979) being implemented.

Recent program research has focused on describing in a systematic fashion the actions and events that occur in relation to the change effort. In order to document what happens to advance or retard a change effort, the program is attempting to develop a "taxonomy of interventions." To date, the work is incomplete. All aspects of the taxonomy have not been fully developed. However, a definition of interventions and a preliminary classification system have been derived. That classification system, or Intervention Taxonomy, will enable change facilitators and researchers to make both conceptual and operational distinctions between various types of actions and events that influence use of an innovation. The taxonomy is being developed from the frame of reference of the change facilitator and with the ultimate goal of proactive change facilitation clearly in view.

This paper will describe the preliminary taxonomy for classifying interventions. The first section will present a brief review of the literature which describes what has been reported about the definitions, models, and role

of interventions in change efforts. Next, the methodologies used in this study are briefly described. In the subsequent section, levels of interventions[2] will be defined, tollowed by illustrations of each. The paper concludes with a description of an emerging conceptual framework and a discussion of the implications of this work for change facilitators and for future research.

The Literature

In concert with data collection activities, a review and analysis of related literature was initiated on the influence of interventions on the process of change. The objectives were to delineate how the organizational change literature (1) identified and defined interventions, (2) grouped and classified interventions, and (3) described interventions and their effects. Utilizing a wide variety of descriptors and a dozen indices, the search resulted in references from a wide array of sources and disciplines. These abstracts, journal articles, and books were then reviewed in light of delineated objectives. In essence, the review revealed surprisingly little in the literature that directly focused on a definition or analysis of various types of interventions.

In thirteen educational and psychological references reviewed, eight did not list the term "intervention." The following definitions are representative of the remaining five:

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[2]The full definitions of the levels of interventions are attached as an appendix.

--an action performed to direct or influence behavior (ERIC, 1977);

--behaviors by an organism designed to alter the environment or its relationship to the environment (Wolman, 1973).

A later survey and analysis of items from ERIC current awareness listings, which were flagged by the descriptor "intervention," resulted in three groupings of "intervention" definitions:

Group 1 -- a psychological treatment prescribed to cure or remedy some mental, emotional, or otherwise deviant behavior, usually in children; the treatment is the intervention and is thought of as a product or "thing" delivered to the client "as an event."

Group 2 -- similar to Group 1, an educational package or program which is expected to improve learning outcomes or gains in skills for children or adults.

Group 3 -- training strategies or advice on how to put a program in place.

None of these definitions appear to treat change as a process; rather, they suggest implicitly that interventions are either an event or a product that results in change.

Classifications of types of interventions were similarly limited, tending to be prescriptive rather than analytical. They were classified on the basis of (1) a general approach to change; e.g., Power Coercive, Rational Empirical, and Normative Reeducative strategies for change (Chin & Benne, 1969); (2) conditions or factors in the organization that the interventions are designed to change; e.g., Watson's concept of "resistance to change" (Watson, 1976); (3) roles of the change agent in implementing change (Gross, Giaquinta, & Bernstein, 1971; Schmuck & Miles, 1971); (4) conditions for successful change (Greiner, 1972); (5) generic principles or guidelines for implementing change (Zaltman, Florio, & Sikorski, 1977); (6) stages of the change process; e.g., "unfreezing, changing, and refreezing (Lewin, 1948).

Most of these classification schemas ignore altogether how the plans they prescribe or the principles they advocate become operationalized. While another theorist, Havelock (1973), clearly states that there is an impo:tant need for spelling out in detail plans and actions for the course of the change effort, the strategies and supporting tactics he describes are not specific enough to be of much help to the practitioner or the researcher. Although it can be assumed that the source of the intervention is the "educational innovator" or "change agent," there is no information on who should be the target or audience of the intervention or when/where/how that action should occur.

In summary, the review of the literature on the change process, to determine how interventions had been classified and described, recovered lists of guidelines for change agents to follow in designing implementation strategies. However, there were almost no behavioral descriptions about how to implement those guidelines. In addition, almost all the intervention literature focused on system change. There was little, if any, information about the actions required on a one-on-one basis with an individual user who may be struggling tc develop the understanding or the capacity to utilize an innovation effectively.

Our impressions of the literature are similar to observations Guba (1967) very neatly reflects about the "state of the art" in terms of the help that can be provided to practicing change agents who must decide what intervention is appropriate under which circumstances.

> More than a decade ago I was a self-styled "expert" in the area of administrative staff relationships. My colleague at the University of Chicago, Jack Getzels, and I strove mightily to put the terms "nomothetic" and "idiographic" into the vocabulary of every practicing administrator in the country. I recall that we made a lot of speeches on the subject, Jack and I, and usually there was a question or discussion period following. Almost inevitably this

comment would come from someone in the audience, "What you say seems to make some sense, although I'm not sure I really know what you're talking about. Why don't you fellows come down out of your Ivory Tower and tell us about your ideas in language that we can understand. How about showing us how to apply those ideas 'on the firing line'?"

"Well," we would say, "Practice is hardly our concern. We don't know what the practical problems are. It's up to you administrators who have to deal with those problems everyday to make the application. And, as for not understanding our language, well, you can hardly fault us for that. If we are in the Ivory Tower, then you are surely in the basement. If we should descend so as to speak your language, why don't you ascend and meet us at least half-way up?"

Thereupon, the discussion would end in an impasse. (p. 37)

Our review of the literature on organizational change reached a similar impasse. Although there were a host of models and theories about change, there was little that contributed to our work in developing a definition and classification schema of interventions that would be operationally definitive for the researcher and concrete enough for the practicing change facilitator.

## Design of Intervention Research

The study of interventions has been a focus of program research since 1976. Increasingly, issues related to interventions have been used to organize ongoing field work and to analyze the program's large data base. Overall, research strategies have included both quantitative and qualitative research methodologies. The research has been grounded in practice through collaboration with school and higher education field sites actively involved in change efforts.

To collect data specifically about interventions, the basic approach has been to employ ethnographic techniques. Full and part-time ethnographers have

been assigned to the field sites for two to three years to observe and document "interventions" as they happen in relation to a specific change efforts[3]. Most of this documentation, in the form of protocols, has provided the program with a very rich data base about change management in the real world. In addition, personnel at one field site have maintained diaries and logs about the actions and events that they have engaged in. Research staff have also documented their observations about interventions when they have been on-site for quantitative data collection activities. A more detailed description of the intervention data collection efforts has been described by Hord (1979).

Once ethnographic data were collected into protocols, the data were combined with descriptions of interventions from published case studies of various change efforts. This data base has then been the subject of quantitative and qualitative analyses by the program staff and field site colleagues.

Various data analyses have been attempted. Efforts have been made to sort "intervention cards" (which described the nature of each intervention) on the basis of like characteristics, to rate interventions on a set of derived dimensions using computer clustering procedures, and to derive intuitive, generic descriptions of various apparent types of interventions.

In some cases, special analytical tools have been developed to reduce data and to assist the staff in identifying and describing interventions. For example, a mapping procedure was developed for each field site which

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[3]The majority of the data for taxonomy-building was collected from an ethnographic study of implementation in one junior high school. Howver, ethnographic data about interventions from other studies in elementary and secondary schools and from higher education field sites was also utilized.

catalogued all the documented interventions for that site (Zigarmi &

Goldstein, 1979) and a system for coding the subparts of interventions were

developed. These procedures, in combination with others, have resulted in the

initial levels of the Intervention Taxonomy that are described here.

## DESCRIPTION OF TAXONOMY OF INTERVENTIONS

In this section, the developing Intervention Taxonomy will be des-

cribed. A brief description of each level will be presented, along with the

key components comprising its formal definition. Full definitions, with

descriptors and examples, are included in Appendix A.

### Definition of "Intervention"

As the first step in the intervention taxonomy development, it was neces-

sary to define "intervention," an issue not directly addressed by the litera-

ture on organizational change. The working definition offered here is the

result of extensive staff debate and analysis. For a while, every new set of

data caused a change in the working definition. Eventually a definition

evolved which has remained relatively stable for the last fifteen months:

> An intervention is an action or event or a set of actions or
> events that influences use of the innovation.[4]

Work of the staff has resulted in the identification of dimensions or

characteristics of interventions (i.e., source, target, function, medium, and

location) which are not part of the general definition. These dimensions are

seen as "sub-parts" of the intervention. They can be coded separately and

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[4]A process or product that is new to a potential user is considered an
innovation.

used by the researcher to classify interventions into different types[5].
In addition, these dimensions can be used by change facilitators in different
situations to analyze and select particular interventions.

It is important to note that the definition does not specify the magni-
tude or type of effect(s), nor does is distinguish between different kinds of
effects of interventions. The definition merely requires that the action or
event has some influence on use of the innovation. Likewise, any considera-
tion of the style of the innovation has also been excluded from the working
definition and the classification system. However, the relationship between
interventions and the characteristics of the inovation will be a focus of
continuing program research.

## Identification of Levels

The second step in the taxonomy development was the identification of
different intervention "levels" on the basis of several criteria, for example,
scope, duration, and number of users affected. In general and in most cases,
the notion of "levels" gives a sense of the size, magnitude, degree of impact,
or intensity of the intervention. They are hierarchical, tending to range
from the more global, general and abstract to the more minute, concrete, and
specific.

## Policy Level Interventions

The broadest level of the intervention taxonomy is that of policy.
Policy decisions in an organization or affecting an organization can have

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[5]The topic of "dimensions" and their coding will be developed more
fully in a future publication.

significant impact on a change effort. They can be used to initiate change (e.g., PL 94-142), to disrupt charge that is already underway (e.g., a school-based decision to remove financial support), or to advance a change effort (e.g., promotion of a key innovation advocate). In our field sites, policies clearly influenced use of the innovation and the design of the change process.

A brief definition of policy is:

> A policy is a rule or guideline that reflects, directs, and legiti-mizes goals, procedures, decisions, and actions of the organization and individuals within the organization.

Two types of policies have been identified[6]. A <u>formal policy</u> of the organization is generally written down and can be reliably described by members of the organization. It is easy to access statements of formal policy by reviewing the official documents of the organization. Formal policy is usually determined by persons with positions of authority in the organization. Violations have the potential consequence of some form of reprisal by the formal organization. An example of a formal policy is "the organization will not pay users for training that occurs during regular working hours."

<u>Informal policy</u>, on the other hand, is not written down, although it shapes the behavior of members of the organization. Informal policies are often rooted in sub-group norms and may not be understood or accepted by all

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[6]Usually, when people think about policies, they think about rules or guidelines that are written down. Often, these formal policies have less effect on the way the organization operates than might be expected. As influential, if not more influential, are other rules and guidelines that signifi-cantly affect how an organization functions and operates as if they were writ-ten down (e.g., informal policies, norms). Because we observed that these two types of policies existed in organizations, we felt it was important to distinguish between the two types in our conceptualization of levels of interventions.

members of the organization. The consequence of violating an informal policy is more likely to be peer disapproval, rather than sanction by the formal organization. An example of an informal policy is "never ask the assistant superintendent about counseling or psychological aspects of curriculum since he is violently opposed."

Most policy level interventions, formal or informal, are non-innovation specific. Their effects on organizational behavior are not limited to those related to a particular change effort. Policies also tend to be in place for an extended period of time and, therefore, represent one source of stability for an organization as it experiences change.

## Game Plan Level Interventions

The collection of all interventions that are related to a particular change effort is the game plan. A short definition is:

> A game plan is the overall design for the interventions that is made to implement an innovation. The combination of all the major components of the innovation implementation effort make up the game plan.

An example of a game plan is "the change effort will provide users with a number of staff development experiences, including workshops, individual consultation, peer observation, and college courses. Each of these efforts will be evaluated by a management team charged with responsibility for decision-making and planning for the project." As the name implies, the game plan should be specified when the change process is initiated. However, in many cases the game plan can only be described post hoc, because either the implementation effort was not planned in advance, or the game plan experienced major revision as the change process unfolded. Whether it is specified in advance or described in retrospect, a game plan interrelates all of the

actions that are taken which influence use of an innovation in a given setting.

## Strategy Level Interventions

The next level of interventions is that of strategy. Strategies represent the major operational components of the game plan that have continuity over time. A short definition is:

> A strategy is a major part of the design for implementing an innovation. It is based on a set of implicit and/or explicit assumptions and theory about how people and organizations function. A strategy translates assumptions and theory into action.

For example, if a change facilitator believes in a developmental model of change, she/he would probably emphasize different content at different times in training participants in use of an innovation. A change facilitator working from the assumptions of an organizational development model would be likely to target interventions at groups of users and include training that emphasizes group process skills. In both cases, many actions would be taken over time, which, together, comprise a strategy. Several examples of strategies follow: "The change facilitator works with individual users throughout the project." "All users attend a series of workshops to build skills in use of the innovation." "The administrator supports individual user's efforts in relation to the innovation by modeling use of the innovation."

## Tactic Level Intervention

Tactic level interventions are sub-parts of strategies. On a day-to-day basis tactics are critically important. An excerpt from the full definition is:

> A tactic is an aggregation of incident interventions that, in combination, have an effect that is different from the effects of the individual incidents.

A large number of tactics normally occur during a change effort. Tactics include workshops, meetings, and series of repeated small-scale actions, such as a regularly published newsletter or attempts to redefine staff roles in relation to use of the innovation. Some tactics might cluster to become a "training" strategy of some type; others may form a "governance" strategy; while others could add up to a "communication" strategy for a given change effort.

## Incident Level Interventions

The smallest level of intervention and that most neglected in the literature on organizational change is that of incidents. Incident interventions are characteristically small in terms of duration and the number of individuals involved. A brief definition is:

> An incident is a singular occurrence of an action or event. It is the smallest intervention unit.

An incident is an interaction that occurs between individuals (e.g., a short interaction between the change facilitator and a teacher) or may be the delivery of a single action or event to many individuals at the same time (e.g., a memo from a change facilitator to all teachers).

In our data analysis, incident interventions have become the key building blocks around which the larger levels of tactics, strategies, and game plans have been identified (Zigarmi & Goldstein, 1979). Incidents appear to be very important to understanding a change process as it takes place and in retrospective reflecting about it. From our studies to date, it is clear that delivery and understanding of incident level interventions is of crucial important to the successful implementation of change.

By itself, each incident level intervention tends to have minimal effect
on the change effort. However, the number of incident interventions in a
change effort is so large that their combined effect appears to "make or
break" a change effort. The lack of careful design and management of the
incident interventions may be a key to why many change efforts fail.

## ILLUSTRATION OF INTERVENTIONS AT EACH LEVEL

To illustrate the different intervention levels, sample interventions
are offered here from the data base from one field site (Zigarmi, 1979).
These interventions are illustrative of the kinds of actions that are typical
at each level in the taxonomy, and they also illustrate the detailed wording
in describing interventions that is necessary for their analysis and classifi-
cation. Much staff deliberation has taken place to ensure that the descrip-
tion of each intervention is brief and, yet, inclusive enough to provide the
key information necessary to convey its essence.

The change effort from which these interventions have been drawn took
place in one junior high school. The school was involved with a nearby
regional university in a two-year Teacher Corps project which had, as one of
its goals, to implement a new approach to discipline. That approach was to be
modeled after Reality Therapy, as described by Glasser (1969).

The change effort was sufficiently large that it was possible to divide
the Game Plan into a set of five "Game Plan Components" (functional clusters
of strategies). The combination of these five Game Plan Components comprise
the whole game plan.

The five Game Plan Components are:

 I. <u>Training:</u> Formal training will be provided for teachers, administrators and parents related to the use of Reality Therapy.

 II. <u>Support Structures:</u> Various support structures will be developed within the school to support the use of Reality Therapy.

 III. <u>Management:</u> The Teacher Corps project will be managed through a collaborative effort between the university and the school.

 IV. <u>Evaluation:</u> Several strategies are used to evaluate the school's implementation and effectiveness of Reality Therapy.

 V. <u>Dissemination:</u> Efforts will be made to disseminate information on the school's implementation o. Reality Therapy.

To continue the illustration, several strategies, tactics, and incidents

from Game Plan Component (GPC) I are described below:

GPC I, Strategy B: The project will provide teachers, administrators, and parents with formal training on use of Reality Therapy during both years of the project.

 Strategy B, Tactic 6: The principal and assistant principal orient new faculty members to Reality Therapy in a half-day workshop (August 19, 1977).

  Tactic 6, Incident 1: The principal and assistant principal role-play a situation between a student and a teacher where Reality Therapy might be used for the new faculty members (August 19, 1977).

GPC I, Strategy C: Change facilitators work with individual users on the use of Reality Therapy throughout the school year.

 Strategy C, Tactic 3: Change facilitators critique teachers' tapes of class meetings and interactions with individual students using Reality Therapy (spring, 1977 and 1978).

  Tactic 3, Incident 3: In a tape critiquing session, the change facilitator encourages the librarian to listen more carefully to what kids are saying and to evaluate what the words might mean (February 1977).

## SPONSORED VERSUS UNSPONSORED INTERVENTIONS

One of the key concepts that emerged as the intervention taxonomy was being developed was that of "sponsorship." Sponsored interventions are always initiated by change facilitators. They may or may not be planned in advance. On the one hand, change facilitators may initiate an intervention because they want to influence use of an innovation in a particular way. The actions they take are initiated with an intended effect in mind. This is the case with most game plan, strategy, and tactic level interventions. On the other hand, change facilitators are often in the position of having to react quickly to emerging problems. Although these interventions are not planned in the technical sense of that word, these actions are in harmony with other planned interventions and often have a positive effe `on the change process. In these cases, change facilitators are still responsible for the effect that occurred.

Thus, sponsored interventions may be planned ahead or carried out reactively. In the case of unplanned sponsored interventions, change facilitators claim that the actions they took reactively were consistent with their intentions and that if they had had time to plan, they would have acted in much the same way.

In contrast, unsponsored interventions are not intended to influence use of the innovation, although, in fact, they do, and change facilitators may or may not be responsible for initiating the action. Like sponsored interventions, however, unsponsored interventions may be planned or unplanned. If they are planned, they are not planned to have the effect they ultimately result in having on use of the innovation (e.g., a change facilitator attends

several out-of-town conferences related to his/her role in the implementation effort, causing resentment to grow in some of the teachers because of the facilitator's lack of participation in the school). If unplanned, unsponsored interventions happen without the control or knowledge of the change facilitator (e.g., a teacher independently reinforces another teacher's use of an innovation without the change facilitator's prompting, a snow storm interrupts plans for a workshop, or a new grant allows the project to continue for another year). In these latter two examples, the unplanned, unsponsored intervention functions like a random event that can negatively or positively influence use of the innovation. No matter to what degree they are planned or unplanned, unsponsored interventions are not intended to influence use of the innovation, or they are not intended to influence in the manner in which they do, and, hence, are not "owned" by the change facilitator(s).

The distinctions between sponsored and unsponsored interventions are summarized on the chart that follows:

|  | Sponsored | Unsponsored |
|---|---|---|
| Planned | Intended Effect (Positive) | Unintended Effect (Positive or Negative) |
| Unplanned | Claimed Effect (Positive) | Unintended Effect (Positive or Negative) |

In summary, game plan, strategy, tactic, and many incidents are considered to be sponsored.

## Themes -- A Special Class of Unsponsored Interventions

When unsponsored interventions of either type, planned or unplanned, occur repetitively, we call them themes. Themes are defined as:

> A set of actions or behaviors occurring over time that has unplanned effects on the implementation effort and/or use of the innovation. Themes are identified retrospectively by their effects and are characterized by a common tone or stance.

In other words, a theme is a set of recurring actions which cause a cumulative effect on use of the innovation that is not planned or anticipated. For example, the change facilitator may miss a meeting related to the change effort because of a personal engagement. This event, in isolation, has no real effect on the change effort. However, when the action is repeated often, the effects begin to accumulate. The continual absence of the facilitator at the meetings begins to alter users' perceptions of the change facilitator's commitment to the change effort. The set of actions and their cumulative effect on the change effort is called a theme. The cumulative effect may or may not be noticed by the change facilitator or other people with responsibility for the change effort. If they become aware of the theme, they may initiate actions (sponsored interventions) specifically targeted toward enhancing a positive theme or eliminating a negative theme.

How one becomes aware of themes is another matter. Relating the idea of how change facilitators become aware of themes to the world of music might be useful. The first time a new song or symphony is heard, the listener attempts to identify the melody or theme that underlies the composition. In cases of very simple pieces, the theme may be discernible after one verse or chorus. It is easily recognized and is clearly identifiable despite variations in subsequent verses or choruses. In more complex symphonic arrangements or
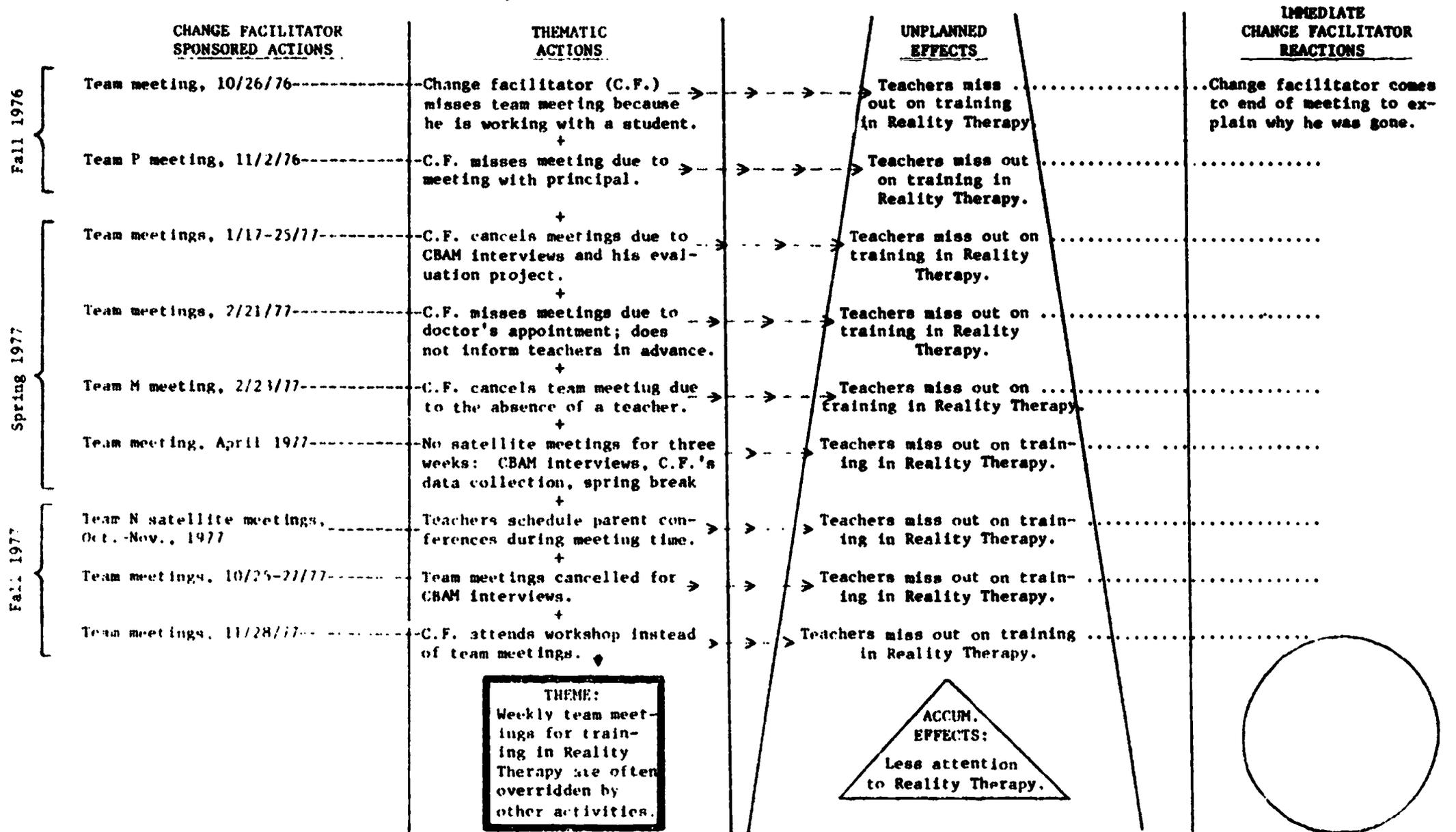
with a less sophisticated listener, a theme may not be clearly understood until several repetitions have taken place.

The same principle applies in the change process. Because change is complex, themes usually emerge gradually. They are often easily masked and difficult to identify. If left unattended, they may gather momentum, accumulate effects, and begin to have a life of their own. The accumulated effects begin to exert a new or more profound effect upon the change effort than would each action in isolation; that is, they become an intervention. The example outlined in the next section of this paper will help the reader understand what the research staff has come to call a theme.

Example of a Theme. Figure 1 illustrates the map of one theme: the gradual displacement of team meetings by the change facilitator. A series of sponsored actions were scheduled to take place; i.e., team meetings. A set of "thematic actions" occurred in relation to these sponsored actions: the change facilitator repeatedly missed those meetings because of conflicting activities. Each incident of a missed meeting had an unplanned effect, less teacher training in use of Reality Therapy. These effects accumulated to yield a larger effect: the emerging theme of insufficient attention by teachers to the innovation with consequent undermining of the change effort.

Themes are a part of every change effort. However, it appears that some change facilitators are more effective in identifying potential themes and making sponsored interventions early enough to eliminate or shift the focus of negative ones or to enhance the positive ones. In the figure, the circle in the lower right corner is used by data analysts to record the occurrence of any sponsored interventions that support or terminate a theme. In the example

Figure 1. THEME: Team Meetings Overridden

| | CHANGE FACILITATOR SPONSORED ACTIONS | THEMATIC ACTIONS | UNPLANNED EFFECTS | IMMEDIATE CHANGE FACILITATOR REACTIONS |
|---|---|---|---|---|
| Fall 1976 | Team meeting, 10/26/76 | Change facilitator (C.F.) misses team meeting because he is working with a student. | Teachers miss out on training in Reality Therapy | Change facilitator comes to end of meeting to explain why he was gone. |
| | Team P meeting, 11/2/76 | C.F. misses meeting due to meeting with principal. | Teachers miss out on training in Reality Therapy. | |
| Spring 1977 | Team meetings, 1/17-25/77 | C.F. cancels meetings due to CBAM interviews and his evaluation project. | Teachers miss out on training in Reality Therapy. | |
| | Team meetings, 2/21/77 | C.F. misses meetings due to doctor's appointment; does not inform teachers in advance. | Teachers miss out on training in Reality Therapy. | |
| | Team M meeting, 2/23/77 | C.F. cancels team meeting due to the absence of a teacher. | Teachers miss out on training in Reality Therapy. | |
| | Team meeting, April 1977 | No satellite meetings for three weeks: CBAM interviews, C.F.'s data collection, spring break | Teachers miss out on training in Reality Therapy. | |
| Fall 1977 | Team N satellite meetings, Oct.-Nov., 1977 | Teachers schedule parent conferences during meeting time. | Teachers miss out on training in Reality Therapy. | |
| | Team meetings, 10/25-27/77 | Team meetings cancelled for CBAM interviews. | Teachers miss out on training in Reality Therapy. | |
| | Team meetings, 11/28/77 | C.F. attends workshop instead of team meetings. | Teachers miss out on training in Reality Therapy. | |

THEME:
Weekly team meetings for training in Reality Therapy are often overridden by other activities.

ACCUM. EFFECTS:
Less attention to Reality Therapy.

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given, it can be seen that the change facilitator did essentially nothing to prevent the build-up of the theme.

In fact, many change facilitators do not appear to recognize themes. They continue to blindly react to the unplanned effects on a moment-to-moment basis. Or, they may have a sense that there is some sort of unidentifiable dynamic which is impacting the change process, but they are unable to put their finger on the cause or put the pieces together. This ability to detect themes may be one key indicator for distinguishing more effective from less effective change facilitators. Whether or not less effective change facilitators can be trained in "theme detection" is unknown.

## RELATIONSHIPS OF INTERVENTIONS

A long-range goal of the program's research is to tie the intervention taxonomy to other aspects of the change process. The Concerns-Based Adoption Model (CBAM), a theoretical model being developed for the explication and management of the change process (Hall, Wallace, & Dossett, 1973), provides the overall conceptual framework for the research. Use of the model yeilds diagnostic information about the individuals involved in change, the innovation, and the context of the system. In theory, interventions will be more appropriate if they are based on these diagnostic data. The effects of interventions can then be observed by reassessing the diagnostic variables.

To achieve the long-range goal of the research, the six levels of intervention will need to be interrelated. Next, an integrative theory or conceptualization of how interventions relate to the diagnostic data the measures

from our previous research can produce must be developed. Figure 2 represents a preliminary step in the direction of interrelating the levels of interventions.

In Figure 2, the various levels of sponsored and unsponsored interventions are shown schematically. The cornerstone of the schemata is incident interventions, which can be either sponsored or unsponsored. Some incident interventions are planned, and they contribute to the change facilitators tactics and strategies. Other incident interventions contribute to the development of themes. In addition, other incident level interventions appear to be "isolated,". unrelated to other interventions.

Themes, if recognized, can prompt the sponsorship of interventions, either designed to capitalize on emerging positive themes or to terminate negative ones. If they continue to develop, it appears that themes can become new norms and in time, perhaps, informal policy or even formal policy.
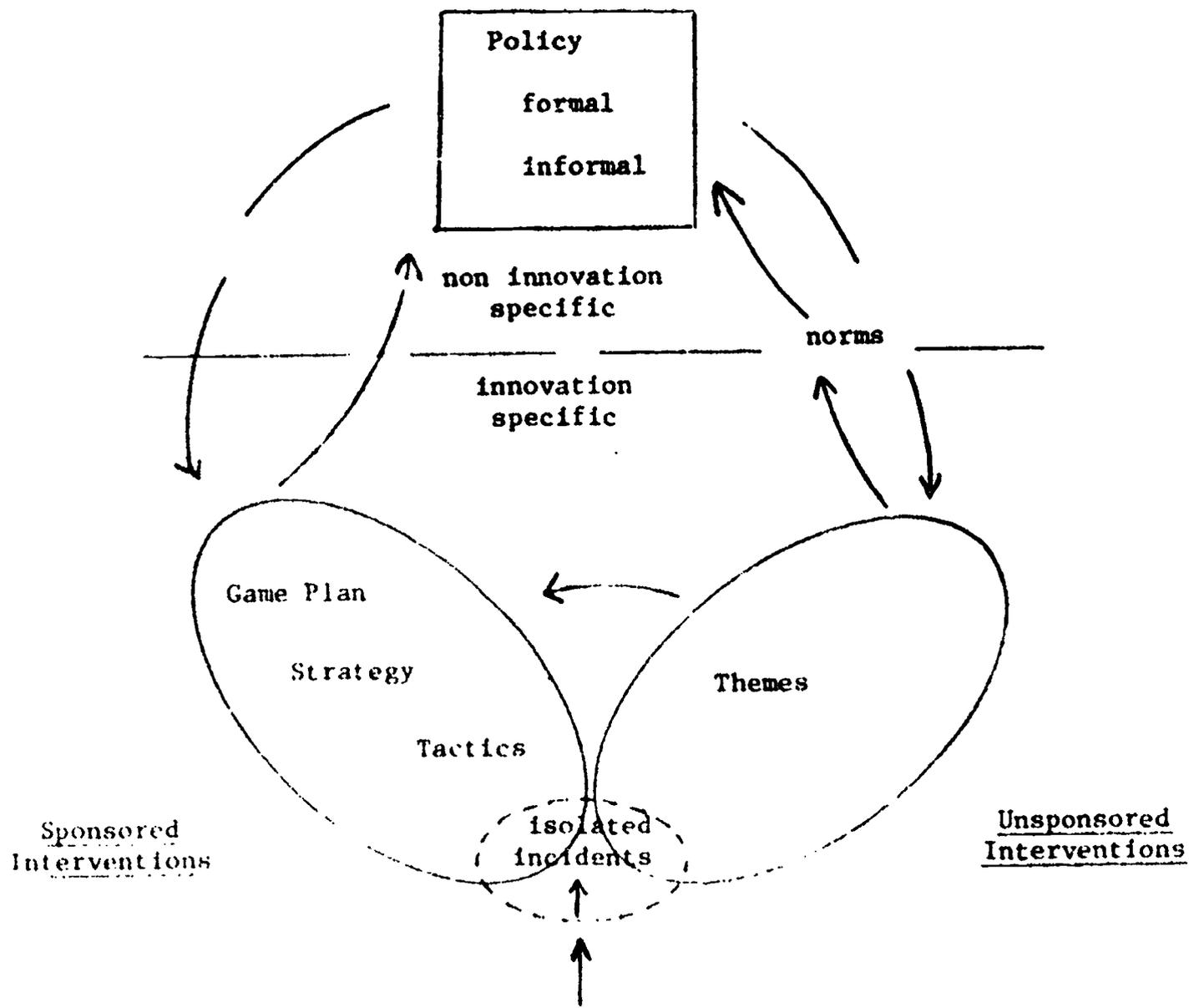
In summary, at this time this "butterfly" diagram pictorally represents some of the hypothesized relationships between interventions. Additional research and further data analyses will, hopefully, broaden and increase the depth of understanding about interventions and their role in change efforts.

## DISCUSSION

### Summary

In this paper, we have reported on the analysis of interventions related to the change process, for which a taxonomy is being developed. Data has been obtained from descriptive protocols developed by ethnographers observing

Figure 2. Possible Relationships Between Different Levels of Intervention



Policy

formal

informal

non innovation
specific

norms

innovation
specific

Game Plan

Strategy

Themes

Tactics

isolated
incidents

Sponsored
Interventions

Unsponsored
Interventions

interventions over a two to three-year period in school systems undergoing change. Program staff have conducted both qualitative and quantitative analyses of these data. Types of interventions have been defined and some of the relationship between different levels of interventions have been hypothesized.

In the final section of this paper, several implications of the intervention research to date will be discussed. Some of the points are targeted toward the practice of change facilitators. Other points speculate about next steps in research. These points, as well as the present form of the intervention taxonomy, are offered to stimulate discussion and further research, and , hopefully, to contribute to the improvement of practice.

Implications

1. A change effort succeeds or fails at the incident level. It appears, at this time, that incidents are the key to success or failure of a change effort. There is relatively little appreciation for just how much action and initiative is required to implement an innovation. The number of incidents that occur is surprisingly large in any change effort. Incidents become the basic building blocks for higher level sponsored interventions, as well as the primary source of themes.

Many change facilitators see themselves as removed from nitty-gritty incident level interventions and day-to-day work with individuals in relation to a change effort. We hypothesize that facilitators who do not attend to the incident level of the change effort, who leave this to others or to chance, will increase the success of a poor quality implementation or outright failure. The incident level is where the individual's concerns and problems with regard to the innovation are or are not resolved. It is at this level

that the little subtleties of behavior begin to accumulate that make the long-term difference in whether or not the change successfully takes place.  Likewise, incidents must be tied to and part of tactics, which are in turn part of strategies, etc., so that the whole change effort is coordinated and consistent.  This point will be elaborated further below.

2.  The game plan for a change effort and its component strategies and tactics should be specified in advance.  It is commonly believed that an athletic coach goes into the athletic event with a game plan that is well developed and understood by all the players.  There is both an offensive and defensive component to the game plan.  Further, it is assumed that effective coaches will modify the game plan if the team falls far behind or if the game conditions change.  Similarly, from the Concerns-Based Adoption Model perspective, change facilitators should have a game plan that is specified in advance.  This way, the goal of the change effort is clear and interventions can be made that are appropriate.  This is not to suggest that the game plan would not change as the change effort takes place.  However, without advance planning, the change facilitator is unlikely to be able to attend to all of the unanticipated situations that arise and have some semblance of coherence in facilitating the change process.

In some change efforts that we have studied, the game plan could only be identified after the fact, because management of the change process was serendipitous.  In other instances, the change facilitators were observed who did an outstanding job of planning at only one intervention level.  For example, in several cases, change facilitators planned at the strategy level only.  It is also common for change facilitators to plan only at the tactic level, one workshop at a time.

For a change effort to succeed, advance planning must be done at <u>all</u>
levels. In addition, the game plan needs to reflect the interrelationship of
the efforts at all levels and should take into account the inherent advantages
and disadvantages of each intervention selected.

3. <u>How long a theme builds up is related directly to the skill of the</u>
<u>change facilitator</u>. The life of a theme in a change effort is surprisingly
varied. Also, the ability to detect a theme seems to vary considerably among
individual change facilitators. In several field sites, change facilitators
have been observed who, after a few incidents have taken place, with very few
effects, were able to recognize an emergent theme. If the theme were counter-
productive to the change effort, counter actions would immediately be initi-
ated. In another field site observed over a two-year period, themes developed
to extremely counter-productive proportions but were not attended to by the
change facilitators. It appears, then, that the ability to identify and
attend to themes is clearly <u>one</u> key to success of a change effort. We hope it
will be possible someday to train change facilitators in the early detection
of themes.

4. <u>Developing stereotypic names of interventions may be useful</u>. As a
part of the present research activities, an attempt is being made to identify
types of interventions within each level. Once identified, they can often be
given stereotypic names, which can increase the ease of communicating the
essence of an intervention and also make the concepts easier for change facil-
itators and researchers to remember. For example, some of the interventions
we have already named are: Wonder Woman/Superman, Hire a Martyr, and Hit-and-
Run Workshop.

5.  Analysis of the anatomy of an intervention. Another part of the
research is examining components of an intervention. To date, a schema has
been developed to code incidents and tactics on seven dimensions. These
dimensions range from codes for the source and target to codes for the func-
tion and setting where the intervention occurred. In the future, coding
systems are proposed for other levels of interventions. These coding systems
will allow for detailed descriptions of interventions and aid in the identifi-
cation of their critical characteristics, particularly with regard to their
effects.

## Conclusion

Change facilitators take actions; events happen as the change process
occurs. Researchers and change facilitators want to know to what extent these
actions and events influence, control, or effect use of an innovation and
movement towards institutionalization of the change. In order to answer these
questions, a set of generic definitions that will distinguish different types
of actions and events and that will be functional in different change efforts
is required. Only then will we be able to talk with a common language about
the actions that are taken in one change effort and contrast these with
similar actions that are taken in another. It is hoped that the beginning
taxonomy of interventions presented in this paper will serve as a step in that
direction.

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## APPENDIX A

### Intervention Level Definitions

These definitions are part of the effort of the staff of the Procedures for
Adopting Educational Innovations Program toward development of an Intervention
Taxonomy.

| George, A. | Hall, G. | Newlove, B. |
| Goldstein, M. | Hord, S. | Rutherford, W. |
| Griffin, T. | Loucks, S. | Zigarmi, P. |

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Research and Development Center for Teacher Education
The University of Texas at Austin

## Intervention

An intervention is an action or event, or a set of actions or events, that influences use of the innovation. An event is distinguished from an action in that an event does not have an intervenor. The key criteria for an intervention are:

1) there is action(s) or event(s) and,

2) an effect on use of the innovation is observed or there is the potential for an effect on innovation use.

In some cases, lack of an action which impacts use of the innovation can be classified as an intervention, e.g., failure to send a memo to decision-makers.

## Policy

A policy is a rule or guideline that reflects, directs, and legitimizes goals, procedures, decisions, and actions of the organization and individuals within the organization. It is not always written, nor easily articulated. Policies generally encompass more than the primary context within which an implementation effort is occurring. Policies are in place for an extended period of time.

Policy descriptors:

1)  encompasses more than the innovation-related change effort

2)  is in operation for extended periods of time (years)

3)  affects most, if not all, of the user system members and/or operations.

Two kinds of policy are differentiated: formal and informal.

Formal policy descriptors:

1)  is a written and explicit statement
2)  is published in the records of the organization
3)  is officially sanctioned by authority
4)  can be invoked to control behavior
5)  is put into effect at an indentifiable time.

Examples:

a)  A student may be suspended or expelled only by the Board of Education.
b)  Students are not permitted to smoke in school building.
c)  Teachers are permitted to use "paddling" as a discipline method.
d)  Travel funds are available for project participants.
e)  Teachers and administrators will be provided inservice training for using the project innovation(s).

Informal policy descriptors:

1)  is implicit and not written down
2)  may be in contradiction with formal policy
3)  is not readily identified or communicated
4)  is derived from group expectations and norms*(next page)
5)  develops gradually
6)  can result in group censure for non-compliance

Examples:

a) Teachers and students should be involved in the establishment of school regulations.
b) Parents will be included in some training for those innovations being utilized with their children.
c) Members of satellite teams will have common planning times.

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*NORMS: Norms are typical behaviors of members of a group ("group" can mean the user system as a whole, subgroups within it, or groups including but larger than the user system). Norms create expectations for the members of the group about what is appropriate and inappropriate behavior. Individual members may not always conform to the norms of the group.

Norms Descriptors:

--unwritten and usually unspoken
--regular behavior
--can be recognized when described
--established only over a period of time
--must be established by a group

## Game Plan

A game plan is the overall design for the interventions that are taken to implement the innovation. The combination of all the major components of the innovation implementation effort make up the game plan. The game plan may be either an explicit or implicit description of the overall plan or a combination of major intervention components.

Ideally, the game plan is specified in advance and modified during the change process. This beginning plan becomes the frame of reference against which specific interventions can be selected and effects assessed. The game plan can then be adjusted as the change process unfolds. In many cases, the game plan is not fully discernible until the change process ends.

For some purposes, it is useful to divide the game plan into components. A game plan component is a manageable part of the game plan. The combination of several strategies with a similar focus represent game plan components.

Game plan descriptors:

1) emcompasses all components of the innovation or innovation bundle

2) encompasses all aspects of the adoption/implementation process

3) encompasses the full time period of the change process

4) is limited to those who are directly and indirectly affected by the change

5) may or may not be explicit.

Examples:

a) The new curriculum will be phased in one grade level at a time over seven years with a preschool workshop.

b) For three years, there will be three inservice classes over ten months, with one pre-inservice. The district will be phased in one-third at a time.

c) Reality Therapy, the teaching of reading, community involvement and collaborative decision-making will be implemented in two years.

d) Staff development will be comprehensive, with courses, workshops, and individual consultation.

## Strategy

A strategy is a major part of the design for implementing an innovation. It is based on a set of implicit and/or explicit assumptions and theory about how people and organizations function and change. It translates assumptions and theory into action. In operation, a strategy is an interrelated set of interventions involving a large portion of the change effort, representing the largest building blocks of the change effort.

Strategy descriptors:

1) is the operationalization of a set of assumptions, theories, and/or beliefs

2) covers a large portion of the change process time period

3) impacts most if not all users

4) is a coherent framework for action

5) is the transition between theory (game plan) and more specific action.

Examples:

a) An experimental program is initiated to pilot test a reading program before district-wide adoption.
b) The change facilitator works with each individual user throughout the change effort.
c) Ongoing training sessions are held throughout the course of the implementation effort.

## Tactic

A tactic is an aggregation of incident interventions that in combination have an effect that is larger or different from the effects of the individual incidents. In order to be a tactic, new effects or changes in effects must be associated with the aggregation. A tactic can be (a) an interrelated set or collection of different incidents (e.g., workshop) or (b) a series of repetitions of the same incident (e.g., regularly scheduled team meetings).

Tactic descriptors:

1) affects many users

2) usually covers a shorter time span than a strategy

3) is a chain of like incident interventions or an interrelated aggregation of different incidents

4) operationalizes strategies.

Examples:

a) Several times during one semester an innovation expert and users view video tapes of teachers using the innovation.
b) A series of radio broadcasts are made about the project during one month.
c) One administrator relays information about the innovation to four other administrators for several months.

Incident

An incident is the smallest intervention unit and is the singular occurrence of an action or event. Some incidents are the small pieces of the larger tactics and strategies, while other incidents are one of a kind happenings. Incidents can occur between two individuals or may be the delivery of a single action or event to many individuals at the same time.

Any action or event can be broken into smaller elements. The smallest elements are viewed as simple incidents having one main idea (e.g., casual suggestion to an individual), while a combination of these small elements are complex incidents having more than one main idea (e.g., a staff meeting).

Incident descriptors:

1) is smallest size intervention

2) is of short duration

3) can target one or more individuals

4) is a single action of event that has an effect associated with it

5) may have an effect which is large.

Examples:

a) Users share comments about the workshop.
b) One project staff member meets with a visiting dignitary.
c) The principal tells the project director about teacher schedules.
d) Innovation specialist gives suggestions to one user.

Theme

A theme is a set of actions or behaviors occurring over time that has unplanned effects, either positive or negative, on the implementation and/or use of an innovation. It is characterized by a common tone or stance or reflects an underlying attitude or position. Themes are identified retrospectively by their effects.

Theme descriptors:

1) is a collection of related incidents

2) has unplanned effects

3) can't be identified until after some effects have accumulated

4) can be positive or negative in tone.

Examples:

a) The project director is out of town a lot.
b) One change facilitator exhibits unusually irresponsible behavior.
c) Enthusiastic teachers influence their colleagues in use of the innovation.