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Taxonomies of Organizational Change: Literature Review and Analysis

by

Lyle M. Spencer, Jr. and Bernard J. Cullen

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Contracting Officer's Technical Representatives:

T. Owen Jacobs, COTR
Raymond J. Kirk, ACOTR
Organizational Effectiveness Technical Area

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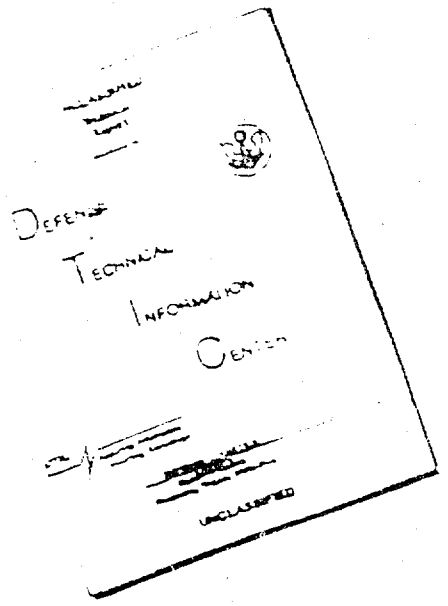

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This report presents a taxonomy and data collection methodology for assessing Army organizational effectiveness (OE) interventions. The authors reviewed the literature on organizational development classificatory schema and identified four variable dimensions that can be used to summarize this literature. These variable dimensions are: change agent characteristics, competencies and roles; client characteristics and problems; intervention methods and processes; and outcome objectives and results.

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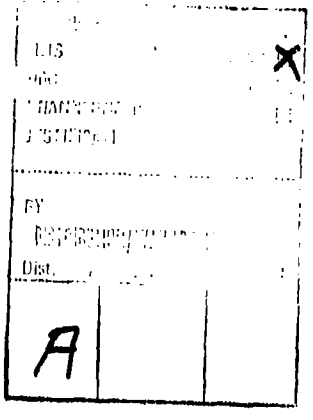
Three data collection methods designed to capture these variables are proposed for the development and analysis of Army OE intervention case studies. Behavioral event and structured inteview protocols to be used to collect data from internal Army OE change agent and client subjects are presented with a classification system which can be used to summarize and code intervention variables.



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ABSTRACT

This report presents a taxonomy and data collection methodology for assessing Army organizational effectiveness (OE) interventions. The authors reviewed the literature on organizational development classificatory schema and identified four variable dimensions that can be used to summarize this literature. These variable dimensions are: change agent characteristics, competencies and roles; client characteristics and problems; intervention methods and processes; and outcome objectives and results.

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CHAPTER I. INTRODUCTION: TAXONOMIES OF ORGANIZATIONAL DEVELOPMENT RESEARCH VARIABLES

Purpose

This study had three objectives: (1) to identify the range of organizational development methods that could prove applicable to the United States Army's organizational effectiveness (OE) programs; (2) to develop a taxonomy for classifying alternative intervention situation and method variables; and (3) to develop a data collection methodology for collecting data from ongoing Army OE projects.

Scope of the Literature Review

The initial objective of the literature review was to identify and taxonomize variables shown by empirical studies to predict success in organizational interventions. The authors found, however, that the number and scope of empirical studies in this field is relatively limited. Most of the commonly-cited literature on organizational change and development consists of the theoretical propositions or clinical findings of practitioners. Given the paucity of empirical data and the influence of qualitative studies, it was decided to include theoretical and analytic references in the review.

The following sources were included in the search process:

- Existing taxonomic studies

  Blake & Mouton, 1976
  Bowers, Franklin, & Pecorella, 1975
  Dunn & Swierczek, 1977
  Franklin, 1976
  French & Bell, 1973
  Golembiewski, 1972
  Havelock & Havelock, 1973
  Lippitt & Lippitt, 1975
  Schmuck & Runkel, 1972
  Srivasta et al., 1975
  White & Mitchell, 1976

- Computer search files

  Comprehensive Dissertation Index
  INFORM (abstract of management, business and economic literature)
  Psychological Abstracts
  Social Science Citation Index
  Sociological Abstracts

- Annotated bibliographies of works on organization development

  Franklin, 1973
  Pfeiffer & Jones, 1976

- Cross-referenced search of the references cited in major recent reviews of the field

  Aldefer, 1976, 1977
  Argyris, 1976
  Beer, 1976
  Dunn & Swierczek, 1977
  Friedlander & Brown, 1974
  Srivasta et al., 1975
  Strauss, 1976
  Yin et al., 1977

  The case study file developed at the University of Pittsburgh by Dunn & Swierczek (1977), and the documented abstracts compiled by Srivasta et al. (1975) at Case Western Reserve University, were used as sources of additional empirical references.

- Recent (1977) issues of journals for articles not included in published reviews

  Academy of Management Journal
  Academy of Management Review
  Administrative Science Quarterly
  California Management Review
  Journal of Applied Behavioral Sciences
  Journal of Management Studies
  Journal of Organizational Behavior Management
  Organization and Administration Studies
  Occupational Psychology
  Organizational Dynamics

- The "practitioner literature", especially the Addison-Wesley series on organizational development (Addison-Wesley, 1978), and the publications of the National Training Laboratories (NTL) and University Associates (Pfeiffer & Jones, 1977), which, in effect, provide a natural history of the development of the field over the past 10-20 years

- References (published and unpublished) on organizational development in military organizations

The authors also found evidence of a considerable body of "hidden literature," studies of organizational interventions which have not been published. While no clear estimate of the size of this literature exists, a recent review of 140 case studies in organizational innovation found that 70 percent were from unpublished sources (Yin et al., 1977). While Yin et al. found that the quality of these unpublished studies is not significantly different from that of published studies, findings in this hidden literature, especially those relating to military organizations, may have been excluded. In particular, unsuccessful change efforts are less likely to be published in the research and practitioner journals (Cummings et al., 1977).

These search procedures generated many more references than could be adequately reviewed in the available time. As a result, abstracts were used when original sources were difficult to obtain, and secondary analyses of existing review efforts were performed whenever possible.

Definitions of Organization Development

A poll conducted by the American Society for Training and Development (ASTD, 1975) asked several hundred Organization Development (OD) professionals for their definition of OD. The three most agreed upon definitions were:

> "An effort (a) planned, (b) organization-wide, (c) managed from the top, to (d) increase organization effectiveness and health through (e) planned interventions in the organization's 'processes,' using behavioral-science knowledge." (Beckhard, 1969)

> "Ways to change the organization from its current state to a better-developed state...involving systems analysis and the development of the interfaces between organization-environment, group-group, individual-organization, and person-person...outside consultants can provide new approaches and tools from time to time, but in the final analysis the capacity for OD must reside inside the organization." (Lawrence & Lorsch, 1969)

"A systematic way of inducing change: (a) based on a structural model for thinking (the ideal versus the actual); (b) progressing in a programmatic sequence of steps from individual learning to organization application; (c) focuses on those silent and often negative attributes of culture which dictate actions that so frequently contradict (the organization's) logic; (d) with emphasis on confronting and resolving conflict as a prerequisite to valid problem solving; and (e) employs a variety of techniques of organizational study and self-learning to bring about needed change." (Blake & Mouton, 1969)

These definitions are broad enough to include almost any technique, policy or managerial practice used in a deliberate attempt to change the individuals in an organization or the organization itself in ways that will make it more likely to accomplish its objectives. Interventions ranging from operations research and plant layout analyses to personal growth experiences for selected members of an organization could be considered OD. The review presented in this paper stresses behavioral science interventions which focused on work groups or organizations as the unit of change, although these boundaries are often transgressed.

Organization Development Taxonomy Models

Two general types of taxonomies for classifying OD interventions were indentified in the literature review: (1) relatively simple three-factor models, and (2) multivariable classification systems.

Three-factor Models

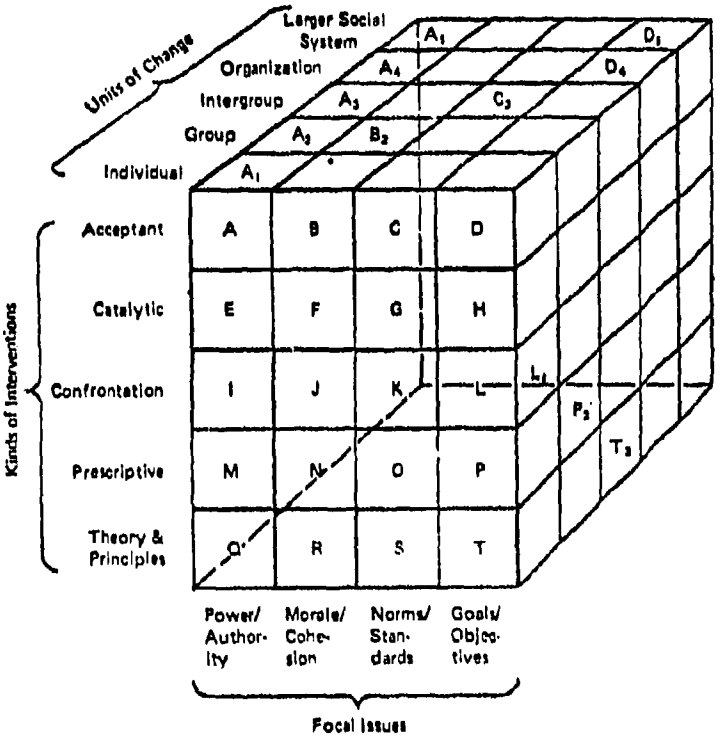
Seven representative three-factor models are presented in Figures 1-7. A brief description and critique of each follows.

The "Counselcube" (Blake & Mouton, 1976)

This model, illustrated in Figure 1, taxonomizes interventions by organizational unit of change, focal issue, and kind of intervention. Units of change levels are individual, group, inter-group, organization, and larger social system. Focal issues (the client's problem) are divided into four categories: power and authority relations, morale and cohesion, norms and standards, and goals and objectives.

FIGURE 1

The Blake & Mouton Counselcube™ Model
(1976)



Kinds of interventions (or change agent roles) are:

- acceptant, in which the consultant is simply "there and caring", providing nondirective passive support which permits clients to explore problems and feelings until they experience catharsis;

- catalytic, in which the consultant stimulates clients' self-examination by providing feedback data, process consultation exercises, modeling, etc., which motivate clients to solve their own problems via active research;

- confrontative, in which the consultant challenges clients' existing attitudes or procedures by asking probing questions, presenting discrepant data, theories, and value orientations, and proposing alternatives which motivate clients to act;

- prescriptive, in which the consultant functions as an expert, controling the situation, collecting data and recommending a solution (in effect telling clients what to do); and

- theory and principles, in which the consultant teaches clients a specific theoretical approach, diagnoses clients' problems in terms of this approach, and gets clients to internalize the theory by having them practice solving simulated, and then real, problems in terms of the theory.

The Blake and Mouton model is questionable in two respects. First, the list of focal issues is hardly exhaustive, and the norms and standards category overlaps with the goals and objectives category. Second, consultant behaviors and intervention methods would rarely constitute a pure kind--at different points in an intervention, or even a single workshop, a change agent could be expected to accept, catalyze, confront, or prescribe solutions for clients.

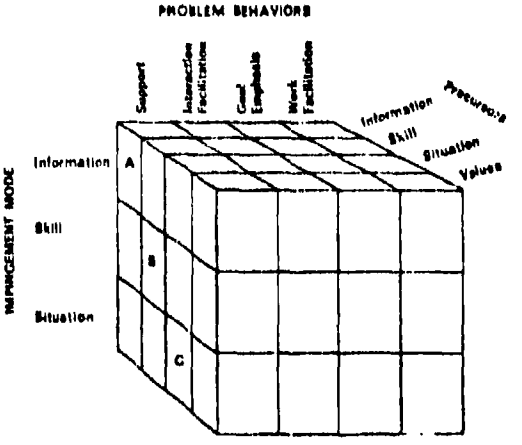
Bowers et al. (1975)

This model, illustrated in Figure 2, classifies interventions in terms of precursor conditions (underlying deficits causing a problem), problem behaviors, and impingement modes (type of intervention). Precursor conditions causing problems can be a lack of information or skill, an inappropriate situation (organizational structure or production design for the task at hand), or value (norm) conflicts. Problem behaviors are

FIGURE 2

The Bowers et al. (1975) Model:
A Typology of OD Interventions
by Precursor, Problem, and Intervention Mode

IMPINGEMENT MODE	STRATEGIES AND TECHNIQUES
Information	Client-Centered Counseling Laboratory Training Management by Objectives Management Seminars Managerial Grid Organizational Development Merger Laboratory Motivation Training Process Consultation Scientific Management Survey Feedback Survey-Guided Development Team Development Third-Party Consultation
Skill	Behavior Therapy Imitative Learning Skill Training
Situation	Decentralization Differentiation-Integration Flow of Work Job Enrichment Leadership-Situation Engineering Operations Research Scanlon Plan Sociotechnical Fit Structural Change



classified in terms of lack of support, interaction facilitation, goal emphasis, or work facilitation. Impingement modes include provision of information, skill training, and situational change (e.g., new work designs or organizational structures).

The three-dimensional (3-D) model proposed is similar to a medical diagnostic procedure where the problem is described in terms of demonstrable symptoms, or precursors (the underlying cause of the disease) and impingement modes as the treatment deemed appropriate. The 3-D model necessitates a differential diagnosis that describes the nature of the disease and its causes. The nature of the treatment must be based upon the diagnosis and must be administered at the correct time and in the correct dosage.

The Bowers et al. model asserts decision rules for matching the appropriate impingement mode to the precursor condition identified (see Figure 2). The model does not describe these prescriptions in sufficient detail, nor does it provide data to support the recommended course of action.

French & Bell (1973)

This model, illustrated in Figure 3, typologizes interventions by target group, type of intervention and "hypothesized change mechanism" dimensions.

Target group categories are individuals, dyads and triads, teams and groups, intergroup relations, and total organization. Seventeen intervention types are listed, ranging from career and life planning and coaching/counseling for individuals, to technostructural changes and strategic planning for organizations. Five "hypothesized change mechanisms," or processes by which OD methods affect clients, are postulated: feedback, awareness of new norms, interaction and communication, confrontation and conflict resolution, and education (knowledge and skills).

The French & Bell model attempts to describe why various types of OD intervention produce effects, but only in general terms. The authors observe that:

> "This classification scheme, while differentiating between interventions, also shows the many multiple emphases that are found in many of the activities. We are only beginning to understand the underlying mechanisms of change in interventions. As that knowledge increases, greater precision in the selection of intervention activities will be possible." (p. 109)

FIGURE 3

The French & Bell (1973) Model: Typology of OD Interventions by Target Group and Hypothesized Change Mechanisms

Hypothesized Change Mechanism	Interventions Based Primarily on the Change Mechanism
Feedback [1]	Survey feedback T-group Process consultation Organization mirroring Grid OD instruments
Awareness of Changing Sociocultural Norms [2]	Team building T-group Intergroup interface sessions First three phases of Grid OD
Increased Interaction and Communication [3]	Survey feedback Intergroup interface sessions Third-party peacemaking Organizational mirroring Management by objectives Team building Technostructural changes
Confrontation and Working for Resolution of Differences [4]	Third-party peacemaking Intergroup interface sessions Coaching and counselling individuals Confrontation meetings Organizational mirroring
Education through: (1) New Knowledge (2) Skill Practice [5]	Career and life planning Team building Goal setting, decision making, problem solving, planning activities T-group Process consultation

INTERVENTION TYPOLOGY BASED ON PRINCIPAL EMPHASIS OF INTERVENTION IN RELATION TO DIFFERENT HYPOTHESIZED CHANGE MECHANISMS

Target Group	Types of Interventions
Interventions designed to improve the effectiveness of INDIVIDUALS	Life- and career-planning activities Role analysis technique Coaching and counselling T-group (sensitivity training) Education and training to increase skills, knowledge in the areas of technical task needs, relationship skills, process skills, decision making, problem solving, planning, goal setting skills Grid OD phase 1
Interventions designed to improve the effectiveness of DYADS/TRIADS	Process consultation Third-party peacemaking Grid OD phases 1, 2
Interventions designed to improve the effectiveness of TEAMS & GROUPS	Team building – Task directed – Process directed Family T-group Survey feedback Process consultation Role analysis technique "Start-up" team-building activities Education in decision making, problem solving, planning, goal setting in group settings
Interventions designed to improve the effectiveness of INTERGROUP RELATIONS	Intergroup activities – Process directed – Task directed Organizational mirroring (three or more groups) Technostructural interventions Process consultation Third-party peacemaking at group level Grid OD phase 3 Survey feedback
Interventions designed to improve the effectiveness of the TOTAL ORGANIZATION	Technostructural activities Confrontation meetings Strategic planning activities Grid OD phases 4, 5, 6 Survey feedback

TYPOLOGY OF OD INTERVENTIONS BASED ON TARGET GROUPS

[1] *Feedback.* This refers to learning new data about oneself, others, group processes, or organizational dynamics—data that one did not previously take active account of. Feedback refers to activities and processes that "reflect" or "mirror" an objective picture of the real world. Awareness of this "new information" may lead to change if the feedback is not too threatening.

[2] *Awareness of Changing Sociocultural Norms:* Often people modify their behavior, attitudes, values, etc., when they become aware of changes in the norms that are helping to determine their behavior. Thus, awareness of new norms has change potential because the individual will adjust his behavior to bring it in line with the new norms. The awareness that "this is a new ball game" or that "we're now playing with a new set of rules" is here hypothesized to be a cause of changes in individual behavior.

[3] *Increased Interaction and Communication:* Increasing interaction and communication between individuals and groups may in and of itself effect changes in attitudes and behavior. Homans, for example, suggests that increased interaction leads to increased positive sentiments.* Individuals and groups in isolation tend to develop "tunnel vision" or "autism," according to Murphy.** Increasing communication probably counteracts this tendency. Increased communication allows one to check his perceptions to see if they are socially validated and shared.

[4] *Confrontation:* This term refers to surfacing and addressing differences in beliefs, feelings, attitudes, values, or norms to remove obstacles to effective interaction. Confrontation is a process that actively seeks to discern real differences that are "getting in the way," surface those issues, and work on the issues in a constructive way. Many obstacles to growth and learning exist; they continue to exist when they are not actively looked at and examined.

[5] *Education:* This refers to activities designed to upgrade (1) knowledge and concepts, (2) outmoded beliefs and attitudes, (3) skills. In organization development the education may be directed toward increasing these three components in several content areas: task achievement, human and social relationships and behavior, organizational dynamics and processes, and processes of managing and directing change. Education has long been an accepted change technique.

*George C. Homans, *The Human Group* (New York: Harcourt, Brace & Co., 1950).

**G. Murphy, "The Uneasy at Intelligence," *Psychological Bulletin* 42 (1944), 1–19.

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Havelock & Havelock (1973)

This model, illustrated in Figure 4, defines intervention efforts in terms of client level, change agent roles, and the goals of the intervention. Clients are arrayed on the familiar scale of size: individual, work group, organization, and organization-plus-system (e.g., a school with student, parent, school boards, resource provider, and other external influences).

Change agent roles are:

- the catalyst, who arouses dissatisfaction with clients' status quo by advocating changes, providing discrepant data or exerting other pressures to "energize the client's problem-solving process;"
- the solution giver, who acts as an expert, providing alternative solutions when asked;
- the process helper, who acts as a guide or reference in helping groups go through the stages of problem-solving by recommending procedures and modeling effective interpersonal skills; and
- the resource linker, who helps clients identify and get access to resources within and outside their own system.

Change goals are classified as attitude (affect), knowledge (cognitive) and skill (behavior) for training programs; for other interventions, no goal taxonomy is attempted.

The Havelock & Havelock model, like that of Blake and Mouton, identifies "pure" consultant roles which are not likely to be found in actual practice and does not define client characteristics or prescriptive contingencies in specific terms. (Other sections of the reference do provide detailed descriptions of alternative change models, traits of effective change agents, and characteristics which predict successful interventions.)

Golembiewski (1972); Schmuck & Runkel (1972)

This model, illustrated in Figure 5, classifies interventions by focus (client problem or issue), locus (unit of change) and laboratory design/intervention. Eleven focus categories are cited, ranging from relatively common issues, such as conflict/collaboration, culture/climate, development of objectives/plans, to obscure notions like "regenerative interaction" and "values guiding interaction/organization." Locus dimensions are the familiar role, person, dyad, team/group, interteam and

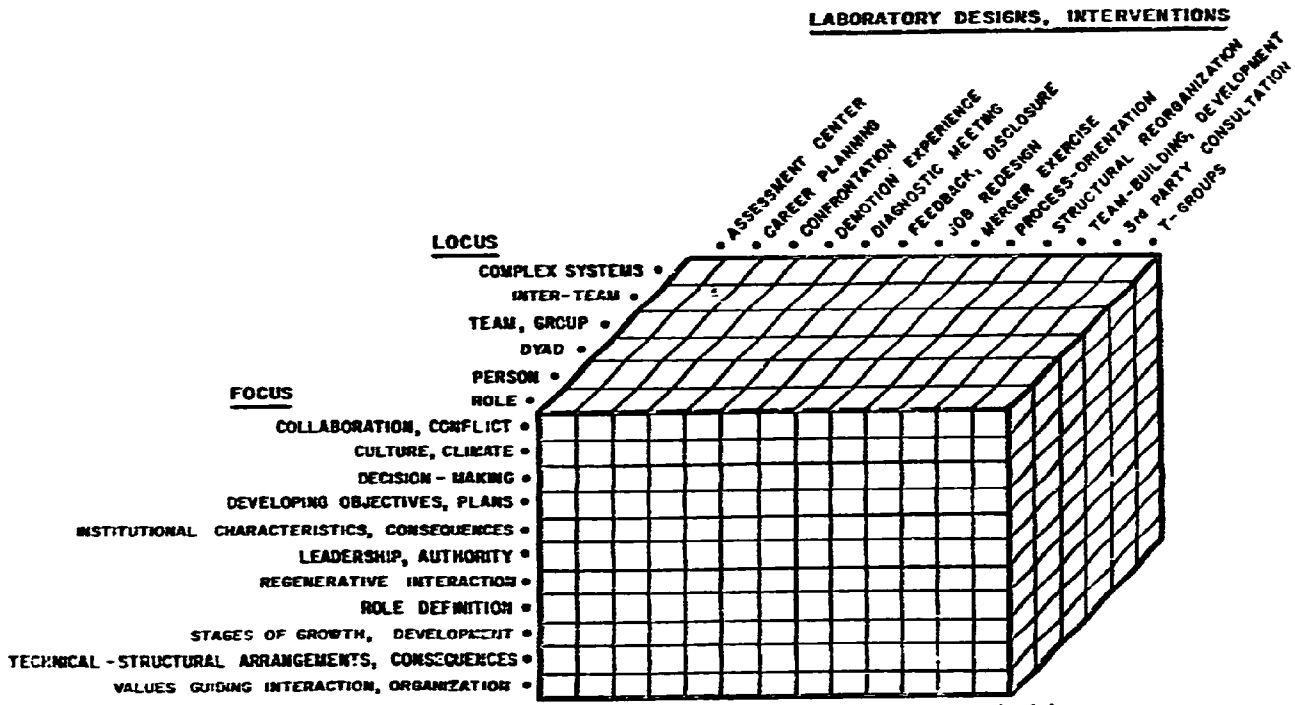
FIGURE 4

The Havelock & Havelock (1973) Model: Typology of OD Interventions (in School Systems) by Client, Goal, and Change Agent Role

REPORT	CLIENT	GOAL OF TRAINING MODEL	CHANGE AGENT ROLE
A. The School-Community Resource Team -Glaser & Goodson	A School-Community System	Link research findings with users in school and community. Train a school-community resource team (5-C Team) and a Research Utilization Specialist (RUS).	*RUS* 1. Catalyst 2. Process helper 3. Knowledge linker 4. Adaptation-implementation helper *5-C Team* 1. Self-help in planning and managing change.
B. The Knowledge Utilization Function/Role -Towne	Users of educational knowledge - schools or individuals.	Train all educational personnel in knowledge utilization. Train a Research Utilization Specialist (RUS) to help in complex change processes.	*RUS* 1. Interface between resources and user. 2. Help client in information retrieval and utilization. *All Educational Personnel* 1. Information retrieval and utilization.
C. Minimal Training System for Self-Renewing Schools -Hood, et al.	The School	A rational approach to self-renewal of schools through Planning, Programming and Management (P,P&M).	*All School Personnel* Each staff member has an allocated function; all functions together comprise the P,P&M process.
D. Integrated Model of Counselor Behavior -Walz, et al.	Schools and students	Develop a model of counselor behavior which will utilize resources to help each person or institute to realize its full potential.	*Counselor* 1. System diagnosis 2. Performance appraisal 3. Out-reach to clients 4. Advocate/initiate changes 5. Environmental intervention 6. Linkage with resources 7. Evaluation

FIGURE 5

The Golembiewski (1972) and Schmuck & Miles (1971) Model:
Typology of OD Interventions by Locus, Focus, and Intervention Method



Source: Based on the notion of an OD cube as developed in Richard A. Schmuck and Matthew B. Miles (eds.), *Organization Development in Schools* (Palo Alto, Cal.: National Press Books, 1971), p. 8.

complex system array by size of unit affected. Thirteen laboratory design/intervention methods, ranging from assessment center to T-group, are cited.

The Golembiewski/Schmuck & Miles model approaches the characteristic checklist approach by including numerous problem and intervention categories. These lists do not appear to be based on any underlying conception and consequently seem arbitrary and non-exhaustive.

Lippitt & Lippitt (1975)

This model, illustrated in Figure 6, classifies interventions by change agent, phase, and client. Change agents are described as internal or external, then arrayed on a continuum from directive to nondirective: advocate, technical specialist, trainer/educator, collaborator in problem-solving, alternative identifier, fact finder, process specialist, and reflector.

Interventions are described in terms of phases in a progressive action research mode as follows:

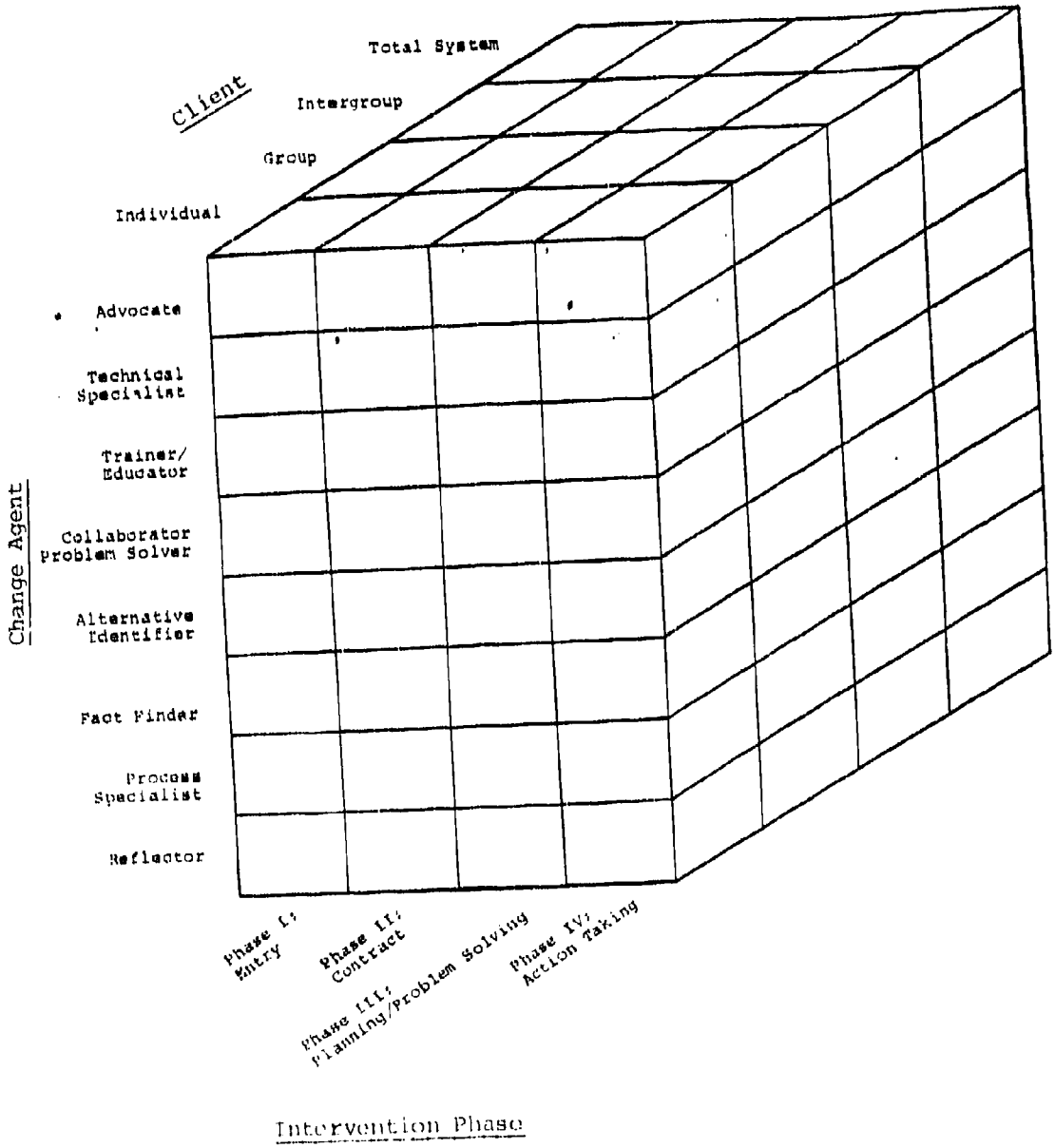
- Phase I: entry, consisting of change agent contact and development of a relationship with clients
- Phase II: contract formulation, consisting of diagnosis and the assignment of role responsibilities
- Phase III: planning for problem-solving, consisting of force field analysis, goal definition and action planning
- Phase IV: taking action, consisting of implementation, follow-up evaluation, and termination

Clients are categorized by unit of change: individual, group, intergroup, and total system.

The Lippitt & Lippitt model provides an interesting variation in the conceptualization of intervention methods. It describes intervention activities in terms of stages in a dynamic process rather than by static types. It assumes that this sequence of phases is adequate to describe any intervention method (e.g., laboratory training, conflict resolution, or survey-guided development).

FIGURE 6

The Lippitt & Lippitt (1975) Model:
Typology of OD Interventions by
Change Agent, Client, and Intervention Phase



White & Mitchell (1976)

This model, illustrated in Figure 7, classifies OD research studies in terms of three sets of "facets:" recipient of change, level of expected change, and relationships involved in change. A recipient of change can be an individual, subgroup, or the total organization. A level of change can be conceptual (new knowledge or information), behavioral (a new skill), procedural (a new policy or practice), or structural (organizational reporting relationships). Relationships involved in change are the usual micro to macro continuum of intrapersonal, interpersonal, intragroup, intergroup, and organizational.

The White & Mitchell model appears to confound two client dimensions: recipient of change and relationship involved in change. Frequency counts of studies classified by these facets do not provide any prescriptive conclusions about which level of change is most appropriate to which recipients or relationships.

Multi-variable Classification Systems

Three review efforts used multi-variable classification systems to describe OD interventions and relate independent descriptive variables to dependent productivity and satisfaction outcome variables.

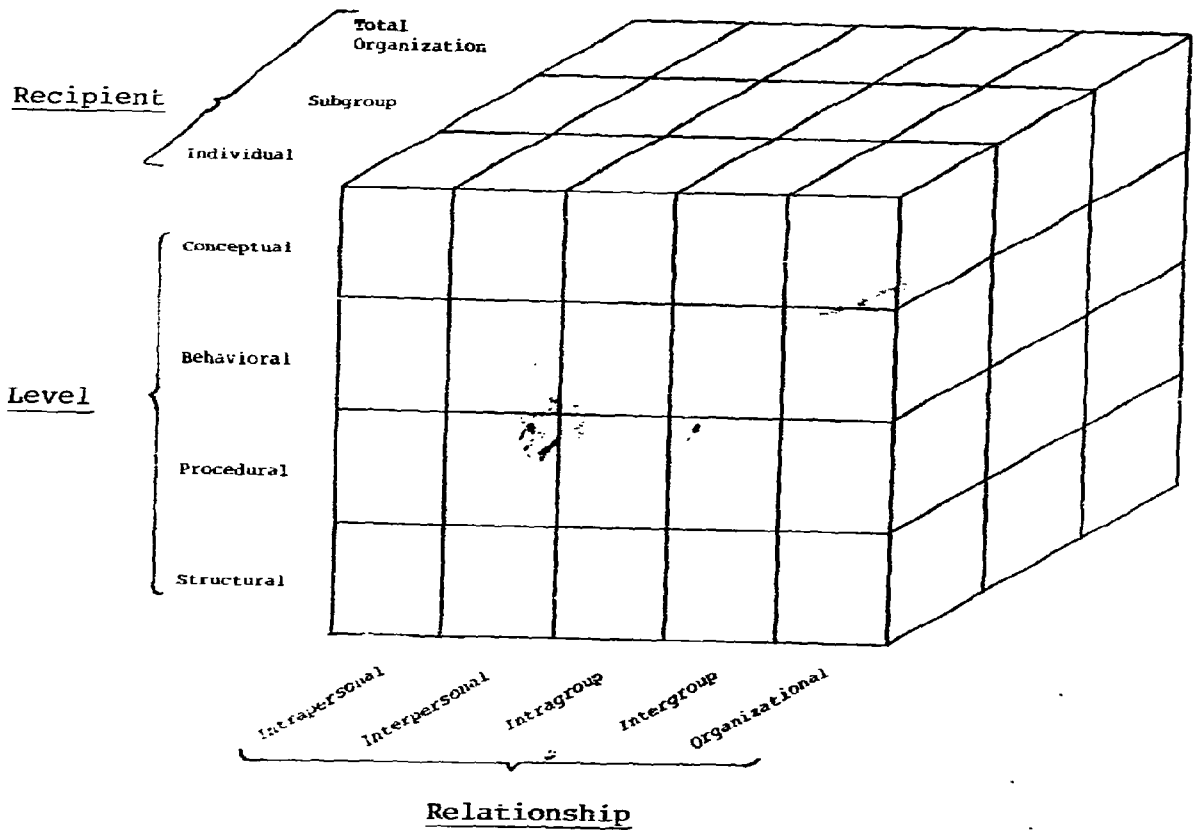
Dunn & Swierczek (1977)

These authors reviewed 67 successful and unsuccessful OD change efforts to test 11 leading hypotheses about conditions which predict successful outcomes. The taxonomy checklist used by Dunn & Swierczek was the most detailed found in the present review effort. (Obtained from the authors in a private communication, this checklist is included as Appendix A of this report and is an example of a relatively exhaustive methodological approach.) Dunn & Swierczek coded published OD case studies for 80 independent variables identified by prominent theorists in the field. These variables were grouped in six dimensions:

- Change Agent Variables
  - (1) change agent characteristics
- Client Organization Variables
  - (2) organizational characteristics
  - (3) socio-economic environment

FIGURE 7

The White & Mitchell (1976) Model:
Typology of OD Interventions
by Level, Recipient, and Relationship



- Intervention Phase Variables

  (4) initiation phase
  (5) regulation (implementation phase)
  (6) cessation phase

Dependent outcome variables were scored on a scale from non-utilization (change rejected completely), installation (change accepted without modifying authority or responsibility structures), adaptation (change adopted with modifications), to institutionalization (change accepted and procedures exist whereby further changes are generated autonomously).

Table 1 summarizes the hypotheses confirmed and disconfirmed. Change efforts which are (1) collaborative (2) introduced by a participative change agent, and (3) involve a high level of participation evidence "low to moderate empirical support in predicting successful outcomes."

A major difficulty with this study's conclusion lies in Dunn & Swierczek's dependent variables. By defining intervention success in terms of changed authority and responsibility relations as opposed to productivity or satisfaction outcomes (e.g., changes in combat preparedness, ratings, profits, or turnover), they bias findings toward intervention practices which impact directly on these processes. "Collaborative" and "participative" approaches are inherently power equalizing, hence more likely to produce the "successes" described.

Dunn & Swierczek's methodology--retrospective case analysis by empirical coding of intervention and outcome dimensions--does, however, appear to be a sound approach. The authors argue that this method meets (1) the internal and external validity criteria as defined by Campbell & Stanley (1966) and (2) the reflexivity (contingent comparison of variables) and translatability objectives desirable in developing a grounded theory of planned change (cf. Glaser & Straus, 1967).

Franklin (1976)

Franklin reviewed 25 organizational intervention efforts using a multi-dimensional independent variable checklist which is summarized in Table 2. The eight variable dimensions used in the study were:

- Change Agent Variables

  internal change agent characteristics
  external change agent characteristics

TABLE 1

Supported and Unsupported Intervention Hypotheses
(Dunn & Swierczek, 1977)

Supported

H4: collaborative interventions are more successful

H5: change effort in which the change agent has a participative orientation are more successful

H10: standardized change strategies which involve high levels of participation are more successful

Unsupported

H1: change efforts in economic profit-making organizations will be more successful

H2: change efforts in which the task environment is unstable (uncertain) in the long term will be more successful

H3: internal indigenous change agents will be more successful than external, non-indigenous change agents

H6: change efforts which originate in the organization will be more successful than those originating outside the organization

H7: change efforts which focus on more than one level will be more successful than those focusing on just one level

H8: change solutions which impact a mix of organizational relationships will be more successful than those impacting one relationship

H9: change efforts employing multiple proven methods will be more successful than those employing one proven or many unproven methods

H11: change efforts directed at the total organization will be more successful than those directed at lower levels

TABLE 2

Organizational Intervention Variable Classification (Franklin, 1976)

1. *Organization's Environment*
   a. Geographical location—Northeast, North Central, West, Deep South, Other South
   b. Scope of the market—Local, Regional, National
   c. State of the market between surveys—Declining, Steady, Increasing
   d. Origin of labor pool—Rural, Town, Suburban, Large City
   e. Industrial pay rate—Low, Moderately Low, Moderate, Moderately High, High
   f. State of the industry—Declining, Established, New

2. *Organizational Characteristics*
   a. Industry—Insurance, Automotive, Petrochemical, Consumer Household Products, Forest Products, Conversion
   b. Function—Administrative/Clerical, Marketing Sales, Continuous Process Manufacturing, Large Batch Manufacturing, Fabrication, Assembly Line
   c. Work force—Union, Nonunion
   d. Innovative reputation—Innovative, Noninnovative
   e. Total number of people surveyed at each time
   f. Per cent change in total number from first to second survey
   g. Total number of groups surveyed at each time
   h. Per cent change in groups from first to second survey
   i. Number of organizational levels at the time of each survey
   j. Per cent change in number of levels
   k. Number of line groups at each time
   l. Per cent change in line groups
   m. Number of line individuals at each time
   n. Per cent change in line individuals
   o. Number of staff individuals at each time
   p. Per cent change in staff individuals
   q. Number of persons in top group at each time
   r. Per cent change in numbers of people in the top management group
   s. Per cent change in actual people in the top management group (continuity)

3. *Initial Contact*
   a. Initiator of the initial contact from the organization to the research development personnel—Company President, Plant Manager, Corporate Manager, Personnel, OD Director
   b. Negotiation period between initial contact and contract acceptance—Months

4. *Entry and Commitment*
   a. Reasons for organization's interest in a development-research effort—Wanted to be seen as innovative, Heard of or prior contact with development-research staff, Specific problem, General (undefined) problem, Wanted to experiment with new ideas
   b. Extent of commitment to activities other than the initial survey—Resurvey, Restructuring, Survey Feedback, Survey Feedback and Process Consultation
   c. Length of time committed to future activities—0-1 yr, 1-2 yrs, 2-4 yrs, 4-5 yrs
   d. Extent of support received from top management—1 to 5 scale
   e. How the development/research staff were introduced to organizational members—During general presentation of development/research plan, Self-introduction, During survey administration

5. *Data Gathering*
   a. Number of total population and sample surveys
   b. Year of the initial survey
   c. Number of sample data collections
   d. Elapsed time between surveys
   e. Reasons for second data collection—Original commitment for evaluation, Benchmark
   f. Credibility of the survey instrument among organizational members—1 to 5 scale

6. *Internal Change Agents (ICA)*
   a. Responsibility for ICA selection—Management, Development Research Staff
   b. Extent of Knowledge—1 to 5 scale
   c. Value orientation—Task, Interpersonal, Self
   d. Quality of skills—1 to 5 scale
   e. Types of skills—Presence or absence of: Interpersonal, Structural Analysis, Persuasion, Laboratory Training/T Group, Perceptual Confrontation, Diagnosis, Political Savvy
   f. Types of non-change-agent job experience—Line, Personnel, Line and Personnel
   g. Extent of change-agent experience—1 to 4 scale
   h. Posture toward research—Negative, Neutral, Positive
   i. Change-agent style—Catalyst, Transducer
   j. Prior training as change agent—Yes, No

7. *External Change Agents (ECA)*
   a. Responsibility for ECA selection—All selected by the research institution
   b. Extent of knowledge—1 to 5 scale
   c. Value orientation—Task, Interpersonal, Self
   d. Quality of skills—1 to 5 scale
   e. Types of skills—Presence or absence of: Interpersonal, Structural Analysis, Persuasion, Laboratory Training/T Group, Perceptual Confrontation, Diagnosis, Political Savvy
   f. Type of previous job experience—Line, Personnel, Line and Personnel
   g. Posture toward research—Negative, Neutral, Positive
   h. Change-agent style—Catalyst, Transducer

8. *Exit Procedures*
   a. Pace and planning of termination—Gradual Planned, Abrupt, Planned, Gradual Unplanned, Abrupt/Unplanned
   b. Reasons for termination—Lack of Support from key managers, Change in organization's priorities, Change in research institute priorities, Organization's perceptions of project failure, Phobic reaction to prolonged involvement with outsiders, Organization internalized change activities
   c. Attitude of organization at termination—Negative, Neutral, Positive

- Client Organization Variables

  organization's environment
  organization's characteristics

- Intervention Phase Variables

  initial contact
  entry and commitment
  data gathering
  exit procedures

Dependent variables in the Franklin study were pretest-posttest changes in composite scores on the Survey of Organizations, a questionnaire measure of organizational climate. Organizations showing significant positive change were classified as success cases; those showing no change or deterioration in climate scores were considered unsuccessful. Table 3 summarizes the findings of this study.

Organizational variables associated with success included more levels of hierarchy, heavy industry (as opposed to sales and service), and innovative reputation, in environments with expanding markets and well-paid cosmopolitan employees.

Change agent skill in prescription and diagnosis predicted intervention success, but consultant training and experience in personnel departments was negatively associated with outcome criteria. Change agents' knowledge, values, style, and internal versus external locus had no effect.

Intervention phase variables associated with success included contacts with and initiation by the organization's R & D staff, top management support, commitment to survey feedback, and specificity of problem definition. Data collection instrument credibility sample design and time between data collection contacts had no effect.

The Franklin study's findings are limited by the small sample size and the nature of the dependent variable: survey results as opposed to productivity or satisfaction outcomes. Franklin concludes that OD interventions have a higher probability of success (1) in less stable status quo-oriented organizations with positive attitudes towards change; (2) where there is commitment to data and feedback based on organizational research; and (3) with internal change agents who are task-oriented, have diagnostic and prescriptive skills, and are not identified with personnel department practices.

TABLE 3

The Impact of Intervention Variables on Intervention Success
(from Franklin, 1976)

	Differentiating Characteristics[a]	*Characteristics with Differentiating Trends*[b]	*Nondifferentiating Characteristics*
ALTERABLE CHARACTERISTICS	Support from top management Introduction of research/development staff Specificity of problem expression ICA's assessment-prescriptive skills Care of ICA selection	Negotiation Period Commitment for a resurvey Commitment for a restructuring of the organization ICA knowledgeability of organizational functioning and change-agentry ICA value orientation ECA knowledge base ECA value orientation ECA skill types Credibility of survey instrument	Position of the contact person Total population data collections Sample data collections Time between waves of data collections Reasons for second wave of data collections[c] Responsibility for ICA selection ICA skill levels ICA research posture ICA style Responsibility for ECA selection[c] Care of ECA selection[c] ECA skill levels ECA change-agent style ECA research posture Pace and planning of termination
UNALTERABLE CHARACTERISTICS	State of the market Origin of the labor pool Industrial pay rate Levels of hierarchy Type of organization Innovative reputation Prior contact with development/ research staff Early vs. late involvement Previous ICA training	Scope of the market Size ICA non-change-agent experience	Geographical location State of the industry[c] Changes in size Desire to be seen as innovative ICA previous change-agent experience ECA non-change-agent experience ECA previous change-agent experience

[a]From the "Successful" column of Table 1

[b]This column includes characteristics noted with a "b" in Table 1.

[c]Denotes limited variance in the present study

Srivasta et al. (1975)

A team of researchers led by Srivasta completed a major review of OD (and related work place) intervention studies for the National Science Foundation's Research Applied to National Needs Division. This review examined more than 2000 references and identified approximately 600 correlational studies and 58 experimental studies reporting empirical data on the effects of organizational interventions on productivity and satisfaction outcome measures.

Correlational studies were classified by level (unit of change), change variables, and outcome variables. Unit of change levels were individual, job, organization and society. Change variables were summarized in terms of 12 categories by relation to level (as illustrated in Figure 8). Outcome variables were divided into three types: performance (e.g., productivity combat preparedness ratings, sales, profits), withdrawal (absenteeism, AWOL, retention, turnover rates), and internal states (satisfaction, morale or other attitudes).

The strength of correlated relationships among change and outcome variables was estimated by calculating a "stability index" indicating the number of additional nonsignificant findings required to shift the mean correlation, indicating a significant relation between two variables, to a point of nonsignificance. Srivasta et al. reduce 1073 relationship findings to five statements:

1. The intrinsic nature of the work itself is positively related to satisfaction and negatively related to absenteeism and turnover.

2. Autonomy is positvely related to satisfaction and performance.

3. Democratic supervisory style is positively related to satisfaction, but may be either positively or negatively related to performance.

4. Supportive supervisory style is positively related to satisfaction.

5. Organizational climate (reflecting support, open communication, and autonomy) is positively related to satisfaction and, in most cases, to performance.

FIGURE 8

Classification of Correlation Studies
(Srivasta et al., 1975)

Levels	Sets	Variable Categories	Individual Clusters	Performance	Withdrawal	Internal States
Individual	Behavior Variables	I. Performance	Productivity Efficiency etc.	9		
		II. Withdrawal	Absenteeism Turnover etc.	3	2	
	Personal State Variables	III. Internal states	Satisfaction Attitudes etc.	66	45	79
		IV. Attributes	Age Education etc.	58	26	97
Job	Intrinsic Variables	V. Work itself	Autonomy Job challenge etc.	17	7	108
	Extrinsic Variables	VI. Supervision	Democratic supervisory style Leader's basis of power etc.	54	10	93
		VII. Rewards	Extrinsic rewards Equity etc.	18	8	26
		VIII. Other Job Factors	Role congruence Advancement and recognition etc.	9	6	45
		IX. Group Processes	Interpersonal relations Group cohesion etc.	15	6	22
Organization	Organization Variables	X. Organizational Level	Organizational level Occupational status etc.	11	7	109
		XI. Other Organizational Factors	Organization climate Organization size etc.	17	12	44
Society	Societal Variables	XII. Societal Factors	Modern vs. traditional culture etc.	3	5	36
			TOTALS	280	134	659

(N = 1073)

"When these findings are examined together, the theme of autonomy emerges as a significant organizational factor related to both satisfaction and productivity. The concept of autonomy appears as an important aspect of the work itself, the nature of supervisor-subordinate relations, and the organizational climate of work. Although the correlational results do not demonstrate causality, the predominance of autonomy over many of the studies suggests that it is a potentially effective action lever for improving productivity and the quality of work life."

The independent intervention variables in the experimental studies reviewed by Srivasta were classified in terms of "change orientations" (intervention methods), "action levers" and client characteristics or "contextual variables". Dependent variables were classed in one of five production, withdrawal and internal state (attitude) dimensions. Four change orientations were identified:

- sociotechnical systems, team building and problem-solving efforts of workgroups to design both tasks and interpersonal relations so they are maximally productive and satisfying;
- job restructuring, job enlargement or enrichment redesigns to provide workers with more variety, responsibility, identification with a completed whole, or other satisfaction intrinsic to the work itself;
- participative management, giving employees opportunities to express their ideas on tasks and organizational practices decisions that affect their work lives; and
- organizational structure, changes in formal reporting of relationships, roles, structure and function of hierarchical levels, communications networks, work flows, and the like.

Intervention change orientations were further described as utilizing one or more of nine action levers:

- pay and reward systems;
- autonomy and discretion;
- support of employees by supervisors or the organization;
- training;

- organization structures changes;
- technical or physical changes in the work place;
- task variety enhancing changes in job designs;
- information feedback to employees on performance; and
- interpersonal and group processes to increase productive interactions among work team members.

Contextual variables classified studies by: (1) type of work; (2) sex of employees; (3) occupational status (blue or white collar); (4) number of persons impacted; (5) union or non-union; (6) client participation in changes; and (7) country in which the experiment took place.

Outcome variables were classified as changes in behaviors and employee attitudes.

Figure 9 illustrates a Srivasta intervention method by action lever by outcome table, and Figure 10 illustrates contextual variable by action lever by outcome taxonomy.[1]

Srivasta et al. summarize the findings of the experimental studies by change orientation.

> "The action levers and their effects for each orientation are as follows:
>
> 1. Socio-technical system changes toward making work groups more autonomous are likely to result in increased performance and satisfaction when groups are provided with:
>
> a. tasks that are relatively whole and self-completing;
>
> b. autonomy and discretion concerning methods of work;
>
> c. timely feedback of results; and
>
> d. a requisite variety of task skills.

---

[1] Srivasta further evaluates the methodological design of the 57 experimental studies in terms of Campbell & Stanley (1966) threats to internal and external validity. Design methodology is discussed in Chapter 6 of this report.

FIGURE 9

Classification of Experimental Studies by Intervention Method, Action Lever, and Outcome Variables (Srivasta et al., 1975)

Intervention Method	Independent Variables: A Summary of the Percentage of Field Experimental Studies that Manipulated a Particular Variable — Action Lever: Pay/Reward Systems	Autonomy/Discretion	Support	Training	Organization Structure	Technical/Physical	Task Variety	Information/Feedback	Interpersonal/Group Process	Dependent Variables: A Summary of the Percentage of Field Experimental Studies that Produced Totally Positive Results[2] — Outcome: Costs	Productivity	Quality	Withdrawal	Attitudes
Socio-Technical Systems (n = 16)	56% (16)[1]	88% (16)	31% (16)	44% (16)	19% (16)	63% (16)	63% (16)	63% (16)	75% (16)	88% (8)	93% (15)	86% (7)	73% (7)	70% (10)
Job Restructuring (n = 27)	14% (27)	92% (27)	22% (27)	33% (27)	14% (27)	22% (27)	7% (27)	45% (27)	4% (27)	90% (10)	75% (20)	100% (17)	86% (7)	76% (21)
Participative Management (n = 7)		100% (7)		14% (7)	14% (7)					100% (1)	57% (7)	100% (1)	80% (5)	80% (5)
Organization Change (n = 7)	29% (7)	43% (7)	43% (7)	43% (7)	100% (7)	29% (7)	14% (7)	71% (7)	43% (7)	50% (2)	100% (4)	100% (2)	67% (3)	50% (6)

[1] Numbers in parentheses indicate the base number of studies on which the percentage is based — i.e., the denominator.

[2] The percentages represent those studies which reported no negative, mixed, or zero-change findings for the dependent variable in that column.

FIGURE 10

Classification of Experimental Studies
by Contextual (Organizational Characteristic), Action Lever, and Outcome Variables
(Srivasta et al., 1975)

CODE:
Blank = not relevant
X = variable manipulated
? = insufficient data
+ = variable increased
- = variable decreased
0 = variable static

		Contextual Variables							Independent Variables									Dependent Variables				
Author(s)	Type of Work	Sex	Occupational Status	Number Treated	Unionized	Participation in Change	Country	Treatment Took Effect	Pay/Reward Systems	Autonomy/ Discretion	Support	Training	Organization Structure Technical/ Physical	Task Variety	Information/ Feedback Interpersonal/ Group Process		Costs	Productivity	Quality	Withdrawal	Attitudes
Blain, I. and Keohare, J.	manufacturing supervisor	?	white	131	No	?	Great Britain	No		X			X			X	X					+
Bowers, D. and Seashore, S.	manufacturing assembly-line	male/ female	blue	215	Yes	Yes	U.S.A.	Yes		X	X	X	X			X	X		+	+	-	+
Cumming, E., et.al.	nursing	male/ female	white	?	?	Yes	U.S.A.	Yes			X	X	X				X		+	0		+
King-Taylor, L.	purchasing	male	white	28	?	No/ Yes	Sweden	Yes			X		X			X		-	+			±
Mann, F. and Hoffman, L.	power plant workers	male	blue	749	No	?	U.S.A.	Yes	X	X		X	X	X	X					-		±
O'Connell, J.	insurance sales supervisor	?	white	22	No	No	U.S.A.	Yes	X				X	X		X		0	+				
Sadler, P. and Barry, B.	printing company	male	blue	?	Yes	Yes	Great Britain	Yes					X			X			+			-

2. Changes in job restructuring are likely to result in increased performance and satisfaction when individual workers are provided with:

a. autonomy and discretion concerning methods of work;

b. adequate amounts of task variety; and

c. timely feedback of results.

3. Participative management increases in decision-making by individual workers are likely to result in increased satisfacion.

4. Organization change directed at reductions in the number of hierarchical levels, increases in the span of control, and introduction of new line and staff positions are likely to lead to increased performance.

Although the field studies did not explicitly experiment with contingent factors and methods of change...a variety of possible contingent factors were mentioned:

1. Job restructuring is more likely to result in increased satisfaction and performance when workers possess higher-order needs. Since many of these contingencies were similar to those found in the correlational studies, these data underscore the need to account for contingent or contextual factors when implementing work improvement programs. Similarly, information about methods of change suggests that some of the theoretical and change orientations may require special change processes if they are to be successful.

2. Socio-technical systems and participative management strategies may require the active participation of workers if the action levers are to be effectively manipulated." (p. xvii-xviii)

Analysis and Summary of Taxonomy Model Variables

The independent and dependent variable dimensions described in the ten heuristic and empirical models reviewed are summarized in Figure 11.

FIGURE 11

A Summary of Variables Models

	Model / Variable Dimension	Heuristic Three-Factor Models							Multi-variable Classification Systems		
		Blake & Mouton	Bowers	French & Bell	Golembiewski/ Schmuck & Miles	Havelock & Havelock	Lippitt & Lippitt	White & Mitchell	Dunn & Swierczek	Franklin	Srivasta et al.
Independent	1. Change agent	(✓) [1]				✓	✓		✓	✓	
Independent	2. Client (unit of change) ● Environment ● Characteristics	✓		✓	✓	✓	✓	✓	✓	✓	✓
Independent	3. Problem/issue	✓	✓✓ [2]	✓	✓			✓			
Independent	4. Intervention ● Method ● Process/ phase	✓	✓	✓ ✓	✓		✓	✓	✓	✓	✓ ✓
Dependent	5. Outcome/goal					✓			✓	✓	✓

✓ Variable dimension present in model

[1] (✓): represented as an intervention variable but in fact a description of change agent behavior

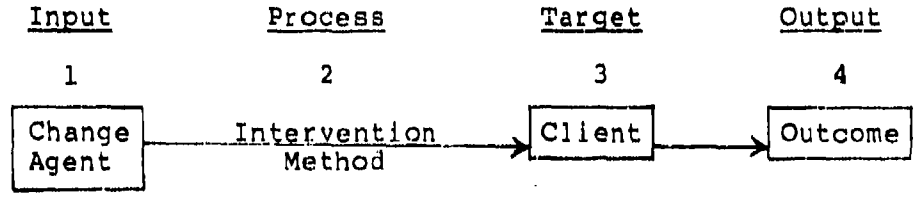
[2] ✓✓ "precursor" and "problem behavior" are both problem descriptors

As illustrated in Figure 11, all classification variables can be reduced to five categories.

- change agent: role (expert, catalyst, process), locus (internal or external), skills, (diagnostic, prescriptive), characteristics (sex, status), training, and experience variables
- client: the client's external environment (certain or uncertain, favorable or unfavorable) and unit of change (individual, work group, organization, or external system) variables
- problem or issue: the problem situation that the intervention is intended to affect (e.g., lack of clear standards, or internal conflict)
- intervention: method (what is done, e.g., team building or survey guided development) and process (how it is done, in phases on a time line or characteristics, e.g., gaining top management support)
- outcome or goal: the intervening or final result of the intervention, e.g., a specific plan for climate improvement (an intervening variable) or change in productivity or withdrawal behavior (a final outcome variable)

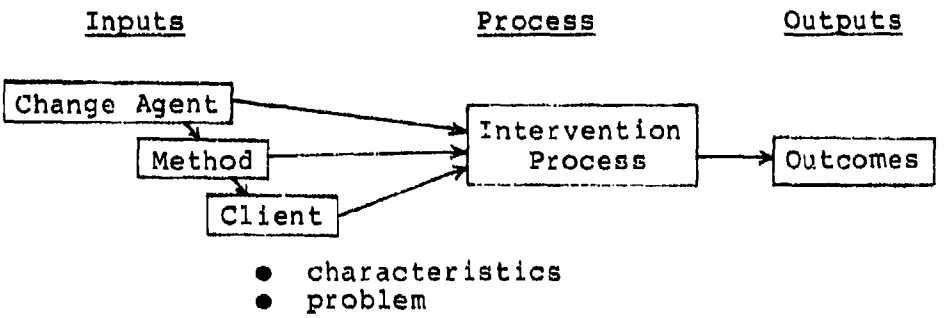
A Systems Model of Organization Development Interventions

The initial organizing framework for this review was a simple systems model in which a change agent (1) uses some intervention method (2) to impact a client (3) to achieve certain outcome goals or objectives (4). In linear input-process-output form this model becomes:



The content analysis of existing taxonomies shown above indicates that most authors concur on four basic components of this model: the change agent; the client, in terms of descriptive characteristics and problems; the intervention method and/or process; and the outcomes of the intervention.

Recognizing client and intervention method variables as inputs, which interact to produce an intervention process, provides a slightly more complex model:



This model is implicit in the majority of empirical evaluations of change efforts (Bowers, 1973; Bowers and Hausser, 1977; Dunn and Swierczek, 1977; Franklin, 1976; Greiner, 1967; Van der Vall et al., 1976; Yin et al., 1977).

It should be observed, however, that linear systems conceptions of organizational change have come under increasing attack from both theorists and practitioners. Argyris (1976), for example, criticizes industrial psychologists for focusing almost exclusively on static characteristics of individuals and organizations, and ignoring dynamic variables in the interventions being investigated. Essentially, he argues that the dynamic processes of an input-output model are treated as implicit or unknown "black-box" phenomena. Although some researchers include process variables in their change model, their underlying conceptualization of the change process remains static. Dominant phase approaches to the change process assume a linearity that is an oversimplification of reality. Argyris (1976) asserts that there is a need for (1) more detailed descriptions of what actually takes place in an intervention situation, and (2) recognition of the complex interactions and feedback loops that occur between consultants and their clients over the course of an intervention.

An example of the need for greater specificity about dynamic processes is provided by the consistent finding in evaluative studies of the need for strong internal support from top management for change efforts (Greiner, 1967; Buchanan, 1971). Unfortunately, it is not clear what "support" consists of or how it is achieved. Does it imply that top managers should personally attend sessions or ensure the attendance of their subordinates by participative, coercive, or other means? Does it mean securing for the change agent the resources that are needed or making a policy statement endorsing the change effort? Each of these behaviors may constitute support but it is questionable whether they all have the same consequences for the change process. Conversely, Sebring & Duffee (1977) report a case in which support of two top management groups was procured, but these two groups were primarily interested in using the consultants to manipulate one other. Clark (1972) describes a similar case in which too much support for the change agent from one group aroused the suspicions of other groups involved. It follows that a static concept such as top management support may be too vague to provide prescriptive help for change agents or practitioners.

The transformation of static models to dynamic approaches includes consideration of the following variables:

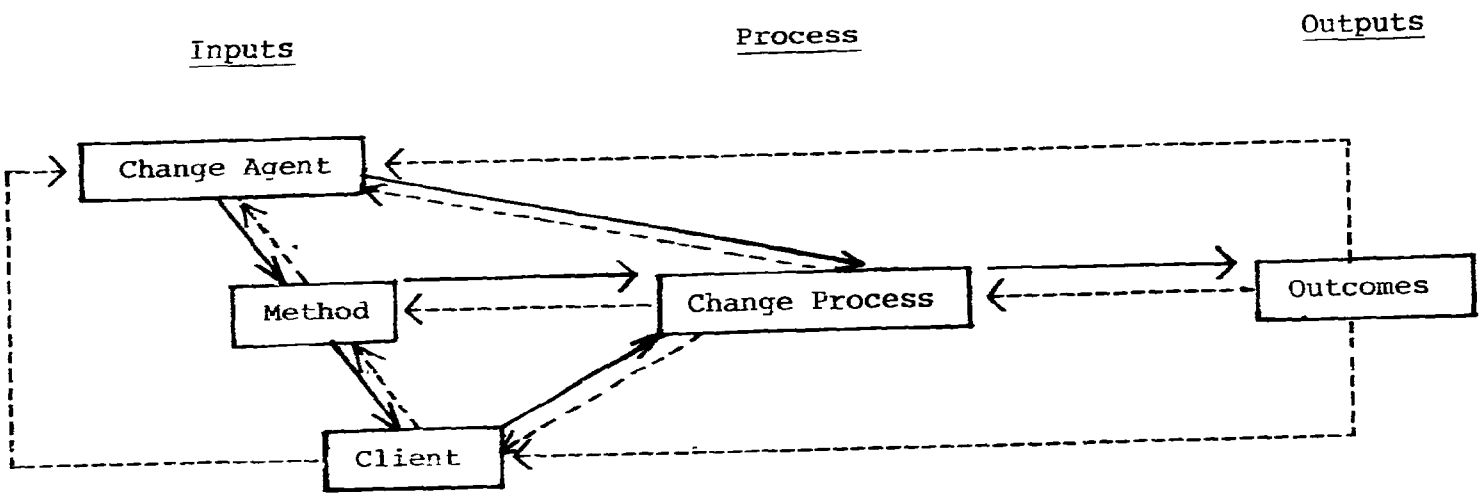
- the introduction of feedback loops between the major sets of variables;
- an increased focus on the process by considering it independently of the label given the intervention method; and
- a shift to identifying the clients and their behavior as active determinants of the change process

Figure 12 illustrates a dynamic model which includes these elements.

Feedback loops allow for the possibility of nonlinear change which is essential for a dynamic model. For example, the loop from change process to change agent and back to change process allows for the possibility that change agents can change their assumptions about the client, the problem, and their behavior as a result of what happens during the change process. This implicitly assumes that at least some change agents can take on a number of roles and switch from one to another. Where change agents do not have this flexibility, this loop can only be positive, implying an intensification of existing role behavior. While the roles change agents adopt require some form of trait assessment, the reason for change in the first place focuses the researcher's attention upon the dynamic process.

FIGURE 12

A Dynamic Model of Organizational Change



causal relations (assuming a linear sequence over time)

feedback loops that can modify components or processes at any point in time

Change processes are rarely distinguished from change methods (e.g., a "team-building intervention" is treated as a unitary phenomena.) Choice of method may have implications for change processes, but the espoused change process implicit in a particular method can differ considerably from what actually occurs. Because potential technical and interpersonal variation exists in the implementation of any change method, it appears essential to separate choice of method from the way it is implemented.

Client input loops recognize that the behavior of clients or target groups, as well as organizational characteristics, influence the change process. Most organization development approaches liken clients in change processes to medical patients: They respond to treatment. Even where the change method urges a collaborative approach, it is the change agent who seeks to define and maintain collaboration. The client reacts to the environment created by the change agent. This passive role assigned to clients in the change process is a theoretical artifact. It fails to reflect many of the motives change sponsors have for introducing change and its resulting behavior (Strauss, 1976). Case studies, especially those describing ineffective change efforts, are replete with examples of clients and target groups attempting to influence the change process in a particular direction. For example, Sebring & Duffee (1977) relate how one set of clients undertook a check on the political backgrounds of their target group and attempted to essentially blackmail them into doctoring a report. A complete description of intervention processes requires that client inputs be recognized and documented.

The following review organizes variables under the major components of the dominant systems model: client, change agent, intervention method and process, and outcome. The authors have endeavored, however, to suggest dynamic implications of variables identified in the change process. For example, in discussing the implications of organizational uncertainty, the flexibility of change strategy is raised as a potential issue for both client and change agent. Uncertainty suggests both that a flexible change method be adopted (e.g., one that can be readily delayed) and that the behavior of change agents and clients reflect added flexibility. While no operational definition of flexibility in this sense now exists, it is clear that dynamic variables such as flexibility will be needed to describe intervention processes.

In classifying intervention variables, the difficulty of defining dynamic processes in operational terms presented a significant problem. The redundancy and circularity in discussions of variable groups reflects this dilemma.

CHAPTER II. CHANGE AGENT VARIABLES

Empirical research on the change agent is almost non-existent: Beer observes in a 1976 review of the literature that "no research is available about the qualities of an effective consultant" (Beer, 1976, p. 984). This in itself is a significant finding given the centrality of the change agent in the majority of models of the change process.

The available conceptual and empirical literature on change agent variables can be divided into three categories: (1) change agent characteristics, (2) change agent competencies or skills, and (3) change agent roles. These variable sets overlap and interact with one another and with other intervention variables. For example, the personal characteristics and competence of a change agent constrain the roles he can effectively adopt. Change agent use of particular competencies and choice of role are also determined by client characteristics and problems. A change agent may take any of several different roles at various points in an intervention or in response to the immediate contingencies of a situation. The dynamic interactions of person and situational determinants of change agent behavior are illustrated in Figure 13. In the following review each of the major change agent variable categories will be examined, and a summary role typology proposed.

Change Agent Characteristics

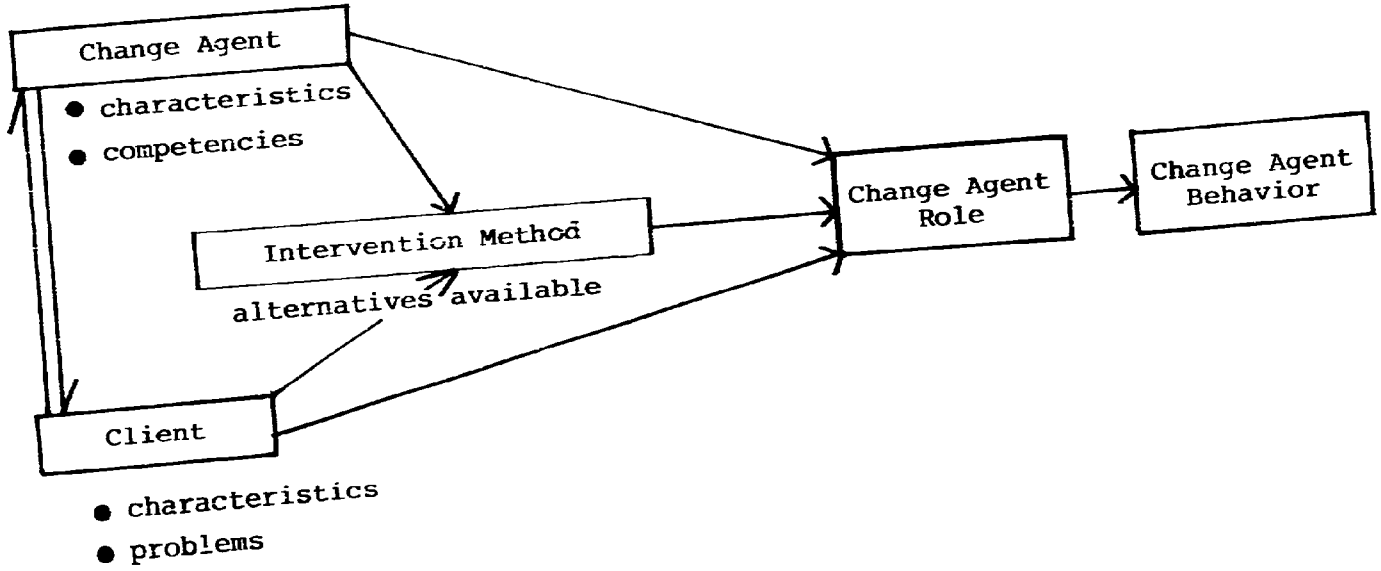
Change agent characteristics identified in the few studies found in the literature can be summarized in five categories: demographic data, values and attitudes, job-related training or education, amount and type of work experience, and consulting experience. This section will review the literature by examining each of these categories. Franklin's (1976) study is the main source of the findings reported here.

Demographic Data

Demographic variables, such as age, sex, and race, do not appear to be important determinants of change agent effectiveness. No published studies were found that examined these variables. Unpublished data collected on a small sample (N=48) of internal consultants in a military organization showed no significant sex or racial differences in rated effectiveness (as rated

FIGURE 13

Interaction of Change Agent Characteristics, Roles and Situational Determinants



by the consultants, superiors, peers, and clients) or in personality and competence variables found to predict rated effectiveness (Spencer, n.d.). No theoretical or hypothetical propositions were found in the literature to indicate that demographic characteristics should affect any of the other sets of variables depicted in Figure 13.

Values and Attitudes

Change agent values and attitudes can influence a change effort in a variety of ways. These variables may determine which change agents are selected by a client, the intervention method most likely to be chosen, the role adopted by the change agent, and consultant behaviors manifested during the change process.

There is a sharp division in the literature, however, over the range and variety of values that should be considered under this heading. A number of writers, expecially critics of the OD movement (Nord, 1974; Stephenson, 1975; Tichy, 1974), include not only professional values and attitudes, but also political values and attitudes. A case study of an intervention in an urban police system illustrates this approach. Reddy & Lansky (1975) redesigned a police recruit training program in an effort to improve community-police relations. The authors accounted for some of the failures of this change effort by analyzing the differences in values and norms between the change agents and the police power structure. These value differences ranged from beliefs about the appropriate authority relationships to attitudes towards racial and ethnic groups. Sebring (1977) catalogued a similar set of value differences as they appeared in the consulting relationship between university-based consultants and public agency administrators. In these examples, the impact of change agent values, as opposed to the interaction between client and change agent values, is not clear. Direct evidence of the impact of general cultural and political values was not found.

A second group of writers focuses on explicit professional values. In an analysis of 25 successful and unsuccessful change efforts, Franklin (1976) made a threefold distinction between the value orientations of change agents: task, interpersonal, and self. Franklin found some evidence to suggest that a greater task orientation among both external and internal change agents increased the probability of success. How a task orientation was measured, and whether task, interpersonal and self-orientation are mutually exclusive is not clear.

Dunn & Swierczek's (1977) review of empirical studies found that "change efforts in which the change agent has a participative orientation will be more successful than change efforts in

which change agents share a different orientation." (The "different orientations" listed were process, engineering, and expert.) Elsewhere, Dunn (see Appendix A) lists 12 possible change agent values: efficiency, productivity, problem-solving, social responsibility, power-sharing, job satisfaction, self-actualization, conflict resolution, income sharing, interpersonal trust, open communications, and sensitivity to others. While the specificity of these values varies, they appear to be more descriptive of change objectives or process than of change agent values (income sharing may be an exception). These orientations are not considered mutually exclusive: change agents could espouse any combination of Dunn's set of values.

McClelland (1975) found an attitude of positive expectations toward clients or others in general to predict change agent success--a finding that recurs in studies of related helping professions (Truax & Carkhuff, 1966; Carkhuff & Berenson, 1976; Rosenthal, 1976).

The relevance of change agents' values and attitudes in predicting intervention success awaits additional empirical research on change agent professional and perhaps political and social values. It is likely, however, that manifest change agent behaviors are more important than attitude or value variables.

Job Related Training and Education

While it is logical to hypothesize that training and performance should be related, data on the effects of change agent knowledge, education, and training are limited and contradictory.

Although organization development is a relatively young field, there is a considerable body of both cognitive and behavioral material that can be learned. Formal and informal education sequences abound and range from university doctoral programs to short in-service training programs. Change agents' education or training could be expected to have implications for the range of change strategies, the type of role and repertoire of behaviors they could employ during the change process. Franklin (1976) found, however, that internal change agents' degree of training was negatively associated with successful change efforts. (The specific nature of training received was not reported.) This finding was not present for external change agents.

Research by Van der Vall et al. (1976) similarly found that internal policy analysts using relatively unsophisticated models are more successful in getting their policy recommendations accepted. McClelland, conversely, found that more effective

change agents had a greater knowledge of organizational theory and intervention methods, but did not indicate the specific nature of this knowledge, nor how and where it was obtained (McClelland, 1975).

An unpublished study found no significant differences in rated effectiveness (or personality and competency variables shown to predict rated effectiveness) among internal military consultants who had

- received twelve weeks of training in organizational development;
- received race relations facilitator training at the Defense Race Relations Institute;
- received training in drug and alcohol abuse counseling; or
- received no "human resources" training at all (Spencer, n.d.).

Either all training has equal effect or, more likely, none of these training courses was competency-based and hence all had no effect. It is tempting to conclude that consultant training is irrelevant, but given the lack of specificity and sophistication of the studies and training programs cited, this conclusion is unwarranted. The specific nature and impact of change agent education and training needs more careful assessment.

Amount and Type of Work Experience

Research on the impact of change agents' general work experience has been sparse and limited to internal change agents. Franklin (1976) found that the considerable previous experience in the personnel field--and personnel departments--was negatively associated with intervention success. This finding was limited to internal change agents. The effects of other sources, amounts and types of prior change agent work experience are not specified. Franklin also found, however, that a greater knowledge of organizational functioning is conducive to successful change efforts; as noted, research by McClelland (1975) supports this finding.

Consulting Experience

Franklin (1976) found no relationship between consulting experience and successful change efforts. Case studies, particularly those reported in dissertations, imply but do not state

that consultant inexperience may be associated with unsuccessful outcomes. For example, McMillan & Langmeyer (1975), in their study of large-scale educational change efforts, surface a number of errors in approach that are most readily explained by the lack of consulting experience among the change agents.

In conclusion, there appears to be some data which show that the characteristics of more effective change agents include task orientation, positive expectations of clients' ability to change, and increased knowledge of organizational behavior and intervention methods. Change agent demographic characteristics, formal training, general work experience and specific consulting experience appear to be unrelated to effective performance. It should be emphasized, however, that these findings are based on a small number of methodologically limited studies. More research on change agent characteristics is indicated.

Change Agent Competencies[2]

Few authors have systematically assessed the competency requirements of the change agent role, and even fewer have empirically identified requisite change agent competencies which actually predict success in change efforts. Six of the seven systematic studies reviewed here deal almost exclusively with change agents who utilize interpersonally oriented change methods. Only McClelland (1975) examined change agents who employed a wider range of intervention techniques.

This limited coverage leads to a heavy emphasis on interpersonal skills as they relate to certain intervention techniques, particularly T-groups and laboratory methods. McClelland (1975) and Franklin (1976), for example, are alone in identifying organizational and managerial skills as relevant for change agents. Bowers & Hausser (1977) note that method-specific skills go unidentified because of the paucity of research on change agents and comparative evaluations of change methods; hence, there are variations in both the skills of change agents and the skill demands of different change methods.

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[2] A competency is defined as a measurable individual knowledge, skill or motive variable which can be shown to be causally related to superior and/or adequate performance in a given job.

Existing studies suffer from conceptual and methodological limitations. For example, Cooper & Mangham (1971), in a review of the literature on T-group trainers, note that "much of the trainer research reviewed...is replete with difficulties which limit the generalizability of the findings in respect to the practical considerations in the organization and conduct of T-group training." They go on to identify five weaknesses of the studies, noting that they (1) have small samples; (2) rely on participant perception of behavior rather than on direct observation; (3) utilize a wide range of different assessment instruments and criteria; (4) fail to examine the long-term consequences; and (5) seldom causally relate changes in behavior with change agent characteristics.

These weaknesses in the research on T-group trainers are equally relevant to research on other types of change agents. The main difference is that there is even less research on the other types of change agents.

Change agent competencies identified in the literature can be organized in four groups: (1) the ability to create an environment of psychological safety; (2) diagnostic skills; (3) initiatory skills; and (4) management skills. These competencies, summarized in Table 4, are important at all points in the change effort. For example, diagnostic skills are pertinent not simply in the diagnostic phase of a change effort but throughout the change process. The ability to listen and observe accurately are as relevant when the change agents are making terminal evaluation as when making the initial contacts with clients. Every interaction between the change agent and the client makes demands on the change agent's ability to diagnose the situation. Table 5 summarizes each competency variable by reference and type of study (empirical or analytical).

Ability to Create an Environment of Psychological Safety

The most important change agent competency is the ability to establish a trusting relationship with clients, to increase their willingness both to deal with potentially threatening information and to accept the risks associated with any new course of action. To be able to accomplish these ends effectively, the change agent must be able to demonstrate an understanding of the client's position at all stages of the change process (accurate empathy), a valuing of the client that stops short of patronization and goes beyond the grossest forms of instrumentalism (non-possessive warmth), and personal consistency or congruence (genuineness). These dimensions are repeatedly rated as critical for effectiveness in consulting and other helping professional roles (Truax & Carkhuff, 1966; Carkhuff, 1969; Carkhuff & Berenson, 1976).

TABLE 4

Summary of Change Agent Competencies

1. Ability to create an environment of psychological safety

- accurate empathy (Truax & Carkhuff, 1966) or "timing" (McClelland, 1975)
- nonpossessive warmth (Truax & Carkhuff, 1966) or caring (Lieberman, Yalom & Miles, 1973)
  - ability to make friends and contacts (McClelland, 1975; Bennis, 1965)
  - an "integrator" motive profile (affiliation motivation higher than achievement or power motivation--McClelland, 1975; Lawrence & Lorsch, 1973; Kolb & Boyatzis, 1974)
  - positive expectations of others (McClelland, 1975; Argyris, 1970; King, 1973, 1974; Rosenthal, 1976)
- genuineness (Truax & Carkhuff, 1966), consistency (Argyris, 1970) or congruence (Bolman, 1971)
- nondirectiveness (Kolb & Boyatzis, 1970; McClelland & Winter, 1969)
- neutrality (Kochan & Dyer, 1976; Sebring & Duffee, 1977) or emotional self control (McClelland, 1975)

2. Diagnostic Skills

- observation (Levinson, 1972)
- critical thinking (McClelland, 1975; Winter, 1977)

3. Initiatory Skills

- emotional stimulation (Lieberman, Yalom & Miles, 1973), pressure or crisis atmosphere (Hanson, 1970; Greiner, 1967; Carter, 1976)
- marketing (McClelland, 1975; Dyer, et al., 1970)

(Table 4, continued)

- initiation (Carkhuff & Berenson, 1976)
- goal setting (Kolb & Boyatzis, 1974; Carroll & Tosi, 1973; McClelland & Winter, 1969)
- feedback (Kolb & Boyatzis, 1974; McClelland & Winter, 1969)
- "psychological success" (Golembiewski, et al., 1972; Brown, 1972)

4. Management Skills (McClelland, 1975) or "executive function" (Lieberman, Yalom & Miles, 1973)

TABLE 5

Change Agent Competencies

(A) Bennis	(E) Lieberman, Yalom & Miles	(E) McClelland	(A) Argyris	(E) Bolman	(E) Kolb & Boyatzis	(E) Truax & Carkhuff; Carkhuff & Berenson	
Process/ I.P. consultant	Encounter groups	Military internal *human resource* management consultants	Intervention Process consultants	T-group	Individual in T-group	Therapist	
Genuine			Consistent	Congruent		Genuine	• ABILITY TO CREATE ENVIRONMENT OF PSYCHOLOGICAL SAFETY
Form relationships		Form relationships			Positive expectations	Non-possessive warmth	
Sensitive	Caring	Positive expectations		Positive regard	Supportiveness		
Listening		"Timing" (Group management skills)		Empathy		Accurate empathy	
			Non-evaluative		Non-directive		
Observing Identifying	Meaning attribution	Diagnostic skills Critical thinking					• DIAGNOSTIC SKILL
	Emotional stimulation	Presentation skills Marketing	Confidence	Readiness to confront	(Positive expectations,) (Expectations of success)		• INITIATION
				Feedback	Goal setting Feedback (Psychological success)	Initiation	
	Executive function	Organizational skills					• EXECUTIVE/ MANAGERIAL SKILLS

Parentheses ( ) indicate classification can be in more than one category. (A)=Analytic Typology, (E)=Empirical Typology

Accurate empathy refers to the ability to attend, listen, and respond interestedly and accurately in a way that makes others "want to open up." Empathy involves sensitivity to the content, nature, and intensity of a client's concern. These skills translate into competence in group dynamics management, what McClelland describes as a sense of timing: More effective trainers "realize when a group is bored or excited, when someone is talking too much or too little, when it is time to find another exercise or mode of instruction...They know where practically everyone in the room is in terms of moods or feeling at any given moment" (McClelland, 1975).

Nonpossessive warmth (Truax & Carkhuff, 1966) or caring (Lieberman, Yalom & Miles, 1973) is the change agent's ability to make the client feel genuinely liked and supported without being overprotective, inappropriately affectionate, or owning the client's problem.

A related skill mentioned by two authors, Bennis (1969) and McClelland (1975), is the ability to form relationships and build contact networks of friends and supporters in a client system. This ability is predicted by the change agent's having an "integrator" motive profile: a personality characterized by moderate achievement motivation, moderate to high affiliation motivation, and moderate power motivation (McClelland, 1975; Lawrence & Lorsch, 1969; Kolb & Boyatzis, 1974).

Also related are the change agent's positive versus negative expectations of the client. Three of the seven authors stress the importance of the change agent having positive expectations regarding the client's ability to ultimately solve his problems. McClelland suggests that these positive expectations may have to be chronic, and Argyris (1970) argues that an effective change agent must place a higher value on a client's ability than the client himself does. This attribute implicitly acknowledges the power of the self-fulfilling prophecy and attempts to mobilize it in the change agent's favor. King (1973, 1974), in an experimental study of the effects of positive expectations, found that the impacts of a job enrichment program "are more attributable to managers' expectations of the effects of job enrichment than the type of program employed" (King, 1973). The effective change agent must be able to generate positive expectations on the part of the client.

Genuineness (Truax & Carkhuff, 1966), consistency (Argyris, 1970; Arygris & Schon, 1974) and congruence (Bolman, 1971; Cooper, 1977), comprise a third attribute impacting upon the motivation and commitment of the client system. Effective change agents must "model" or act in accordance with their prescriptions

for the client. Evans (1974) cites this variable in discussing the reasons for the failures of change efforts. Specifically, he notes that packaged programs such as Blake & Mouton's Managerial Grid, unwittingly utilize an exclusively task-oriented program in arguing for an increased interpersonal process orientation. If the change agent prescribes alternative behaviors for his clients, then he must be able to model those behaviors. A failure to do so may leave the client distrusting the change agent and the prescribed solution.

Kolb & Boyatzis (1974) and McClelland & Winter (1969) posit that change agent nondirectiveness in the sense of not threatening a client's sense of self-control (causing the client to feel brain washed or otherwise coerced to change), contributes to psychological safety.

A related competence may be the ability to remain neutral: (1) avoid identification with any particular group within the client system (e.g., where the change agent has to deal with distinct and potential antagonistic groups: Kochan & Dyer, 1976; Sebring & Duffee, 1977); and (2) maintain emotional self-control when the demand characteristics of the situation are particularly arousing (e.g., when the change agent is attached). McClelland calls this emotional self-control variable "activity inhibition" (McClelland, 1975).

Diagnostic Skills

Diagnostic skills refer to a change agent's ability to generate, collect and analyze information about a client system. Of the seven studies reviewed, four explicitly refer to diagnostic skills. This category includes two specific types of skills: (1) the ability to observe all relevant aspects of a situation, a skill sometimes called "attention to detail" (McClelland, 1975); and (2) critical thinking, the cognitive ability to discern important points in a mass of undifferentiated data, to make critical distinctions, and to support inferences with specific examples or other evidence.

Most authors note that the purely cognitive diagnostic skills of observation and initial analysis must be used with the empathic sense of timing discussed above. Change agents who try to push a particular solution or diagnosis, without assessing the client's readiness to hear this feedback or listening to the client's objections, may be ineffective even if their diagnosis is correct.

Ability to Initiate Change

Change agents facilitate change by arousing clients' desire for change, suggesting directions for change, helping clients set goals and define acion steps, and creating opportunities for psychological success.

Even in collaborative approaches, change agents must motivate or gain clients' commitment to change efforts. One initiatory competence is described by Lieberman et al. (1973) as emotional stimulation, the ability of the change agent to arouse the client's feelings about some topic or course of action. Hanson (1970) notes that the change agent must create some of the stress or pressure that many commentators (e.g., Greiner, 1967; Carter, 1976) see as essential in motivating change. Related competencies are described as presentation, didactic, or marketing skills. Presentation skills are needed by the change agent in entry, training, data feedback, and problem-solving activities. Successful entry and development of client top management support is helped by the change agent's ability to present skillfully what he wants to do or has done. Training effectiveness requires skill in standup public speaking, which involves the ability to present new ideas in a lively and persuasive manner. Clients may need to be sold on the validity or relevance of feedback data, or on proposed solutions to problems identified.

McClelland also explicitly notes that effective change agents demonstrate a willingness to market their services to potential clients, to show the client they have something to offer. A recent study (Dyer et al., 1970) emphasizes the importance of this skill by recounting the efforts of a company to increase the utilization of its internal consultants. That such an effort had to be planned by external consultants suggests that the internal consultants lacked this particular skill. Results demonstrate that those internal change agents who developed relationships with their clients were more likely to receive additional requests for help.

Carkhuff uses the term "initiation" to describe a change agent's ability to help clients identify and feel a need for change (an actual deficiency state), a change goal (an ideal or desired condition), and then formulate specific action steps for attaining the desired goal. Competence in initiation with clients includes change agent skills in goal-setting and feedback, which, if effective, causes the client to feel a sense of pyschological success.

Goal-setting (Kolb & Boyatzis, 1974) consists of the change agent's ability to help clients identify challenging but realistically attainable goals. A goal that is too easy or too difficult is less likely to produce psychological success for the

client. Skill in goal-setting may be related to the diagnostic skills of the change agent: The more accurate the picture of the client system the change agent can construct, the better position he will be in to help the client set challenging and meaningful goals.

Once a challenging goal has been determined, change agents can facilitate the change process by providing clients with accurate feedback as to how they are progressing with respect to the goal. Feedback, regardless of its form, must be helpful and reinforcing, again drawing on the change agent's ability both to understand where the client is (empathize) and to generate accurate data (diagnose). The ability to provide accurate and helpful feedback includes the willingness to confront the client with negative as well as positive feedback. If the change agent does not provide negative feedback, the client can mistakenly pursue inappropriate goals. Negative feedback allows for a reassessment of the client's ability to meet a given goal. The change agent's ability to create opportunities for psychological success is identified by some authors as a distinct skill (Carkhuff & Berenson, 1976).

Psychological success occurs when the client realizes, or has positive expectations of realizing, a valued goal. Anticipation or experience of psychological success increases client motivation and commitment. Golembiewski et al. (1972) and Brown (1976), for example, note that clients who have experienced successful change efforts are more willing to explore additional ways to utilize a change agent's skills. Change agents may create feelings of psychological success by providing examples of successful interventions in analogous settings, initially selecting modest change goals that clients have a high probability of accomplishing, getting some tangible "wins" early in the process, and generally reinforcing any change behaviors by the client. The change agent expression of positive expectations can be considered a motivating or initiatory skill as well as an ability to help the client feel psychologically safe.

Executive and Managerial Skills

McClelland (1975) and Lieberman, Yalom, & Miles (1973) present data to indicate that effective change agents have "executive function" or organization and management skills. Change agents are frequently responsible for organizing projects of considerable size in terms of funds, materials, the number of individuals involved, and complex schedules of activities over time. A large scale survey or yearlong training program, for example, requires considerable coordinating skills. The more complex the client problem or system, the more a change agent is likely to need competence in project management.

Change Agent Roles

Role typologies are the most common method of conceptualizing the characteristics, competencies, and behaviors of change agents. "Role," as used in this literature, is a somewhat nebulous concept: It is not clear whether a change agent's role is what he is (individual characteristic and skill variables), what he does (individual behavior variables), the position he occupies with respect to the client (situational or systems variables), or some combination of these (a dynamic interaction variable).

Five illustrative roles are typologized in Table 6; Table 7 references these role descriptions by author. This typology is not exhaustive (e.g., the basic distinction between internal and external consultants is not included). The typology indicates the range and commonality of change agent role descriptions used. Six general categories can be distinguished, in order of decreasing directiveness and task orientation, and increasing consultant-client collaboration and focus on interpersonal issues:

1. The Advocate or Confrontor: a change agent who (1) unilaterally contronts or attacks a client's existing beliefs or ways of doing things irrespective of the client's own sense of his felt needs or problems, then, (2) using techniques ranging from threats and coercion to persuasion, advocates that the client adopt new attitudes or behaviors. Examples of this type of change agent role include confrontative affirmative action/race relations facilitators and "militant" humanistic psychologists.

2. The Expert: a change agent who supplies specific technical advice to a client from a position of superior expertise, position, or prestige. The expert-client relationship is usually described in relatively cut and dried terms: The expert does not condescend to clients nor attempt to force his views, but merely provides information on demand. One type of expert role is that of the resource linker, a change agent who can secure financial, material, knowledge, or other resources for his client. A second is the researcher or subordinate technician, a relatively junior consultant tasked with collecting data or proposing alternatives in a specific area. Examples could include a consulting engineer hired to provide a structual appraisal of a building, or a prestigious external consultant brought in to advise top management on corporate policy.

TABLE 6

Change Agent Roles

	P. A. Clark (1975)	Lippitt & Lippitt (1975)	Havelock & Havelock (1973)	Sashkin et al. (1973)	Tichy (1977)	Munger, Spencer, & Thomson (1976)	Blake & Mouton (1976)
1. Advocate/Confrontor	(Unilateral expert)	Advocate	Catalyst			"Social Advocates"	Confrontative
2. Expert • Resource linker • Researcher	Unilateral expert Subordinate technician	Technical specialist Factfinder	Solution giver Resource linker	Research	Analysis at the top	(Expert)	Prescriptive
3. Trainer	Delegated	Trainer/ Educator		Trainer	(People change technology)		Theory and principles
4. Collaborator in problem solving (task or people)	Collaborative (delegated)	Collaborator in problem solving Alternative identifier		Consultant	Organization development	Expert Resource "Client centered"	Catalytic
5. Processor (people)	(Collaborative)	Process specialist Reflector	Process helper		People change technology	Process (Resource)	Acceptant

Parentheses ( ) indicate secondary classification

TABLE 7

Change Agent Roles Referenced by Authors

Clark (1975)

Collaborative: The tasks of diagnosing, planning, and action are all undertaken jointly, with the change agent admitting his limited knowledge of clients' situation and problems. The change agent continuously strives for a balance of power between participants.

Unilateral Expert: The change agent acting as an expert gives advice to clients, which he tries to persuade clients to accept on the basis of his prestige, expertise, or support from others in the system.

Delegated: The change agent trains clients to recognize and diagnose particular problems through the application of a research technology. Clients are typically in control of the entire process and its evaluation.

Subordinate Technician: Clients specify the service required from the change agent. The change agent undertakes studies to discover the information required and sends this to clients, who decide on the next step.

Havelock & Havelock (1973)

Catalyst: Change agent brings pressure to bear on client system to confront its problems.

Solution Giver: Change agent, who has predeveloped, packaged solutions to widespread problems experienced by clients, attempts to persuade client to adopt his solution.

Process Helper: Change agent intervenes to help clients solve their own problems.

Resource Linker: Change agent provides client with access to scarce resources, be they informational, material, financial, or personnel.

(Table 7 continued)

Lippitt & Lippitt (1975)

Advocate: The change agent endeavors to persuade clients either to accept particular goals and values or to become more active as problem-solvers and to use certain methods of problem-solving.

Technical Specialist: The change agent applies his specialized knowledge or skills to a problem defined by clients, and within those predefined limits the consultant initiates activities.

Trainer/Educator: The change agent designs and/or implements learning experiences for clients.

Collaborator in Problem-Solving: The change agent jointly engages with the client in diagnosing existing problem-solving.

Alternative Identifier: The change agent acts as a neutral third party to ensure that possible alternatives are generated by client and systematically evaluated.

Fact Finder: The change agent, utilizing a variety of techniques, gathers, analyzes and synthesizes data.

Process Specialist: The change agent provides clients with feedback on how they accomplish their work task, with the purpose of creating a match between clients' interpersonal and group skills and the demands of the task.

Reflector: The change agent stimulates clients to make decisions by asking questions which are aimed at clarifying, modifying, or changing a given situation.

Sashkin et al. (1973)

Consultant: Change agent links knowledge sources to clients, diagnoses client system needs, and recommends uses for knowledge.

Trainer: Change agent helps clients use knowledge retrieval methods to utilize the data in planning changes, and helps clients learn new skills for implementing and evaluating change.

Research: Change agent helps clients evaluate the effects of knowledge use and diagnoses the total process of change, including his own activities. He feeds new knowledge gained into a larger nonclient knowledge bank.

(Table 7 continued)

Munger, Spencer & Thomson (1976)

Expert: Consultant delivers standard survey-guided development sequence, as mandated by top management directive, to all clients irrespective of client characteristics or problems. Interpersonal processing is kept to a minimum. The survey data drives the process.

Resource: Consultant uses survey-guided development sequence flexibly, depending on clients' sense of their own problems and unique situation. Moderate interpersonal processing. The client's perception of his own problem drives the process.

Process: Consultant uses role negotiation, conflict resolution and other interpersonal process consultation techniques to deal with client problems and feelings. Interpersonal processing is high. Group dynamics in the here and now drives the process.

Tichy (1977)

People Change Technology: Operating under the auspices of top management, the change agent introduces and runs individually-oriented change programs for the purpose of improving individual and organizational performance.

Organization Development: Operating under the auspices of top management, the change agent works collaboratively with groups within the organization to change group functioning and group norms. While the purpose is to increase performance, there is a fairly explicit avowal of liberal political and social values.

Analysis for the Top: Operating under the auspices of top management and working with top management problems, the change agent utilizes management science techniques to generate recommendations for top management, which acts upon those recommendations.

3. The Trainer or Educator: a change agent who functions primarily as a teacher, using structured workshops or management development courses as the principle mode of intervention, with clients assuming a student role.

4. The Collaborator in Problem-solving: a change agent who acts as a catalyst, helping clients identify and generate solutions to task or interpersonal problems in a collaborative way. Most consultants using survey-guided development or task process consultation methods function in this role.

5. The Processor: a consultant who focuses primarily on interpersonal relationships, as opposed to task or content issues. He intervenes by being supportive and caring, reflecting on or processing individual behaviors and group dynamics, or directly counseling client personnel.

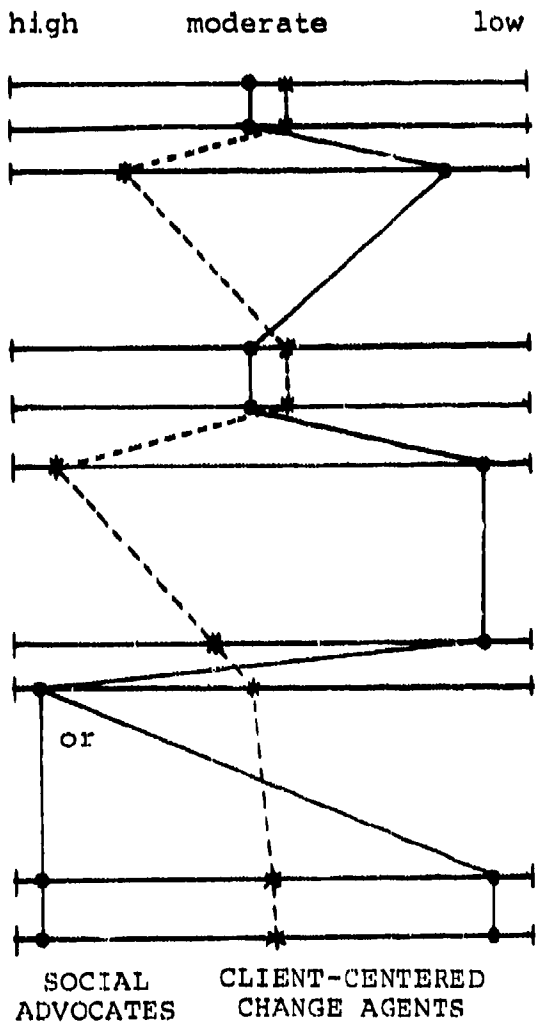
Several authors observe that change agents can adopt different roles over the course of an intervention (Havelock & Havelock, 1973; Lippitt & Lippitt, 1975; Sashkin et al., 1973). Sashkin et al. assert that "the complete change agent performs all of these activities." Change agents often must adapt their roles to meet the demands of specific clients, problems, or situations. Consultants may initially collaborate with clients in solving problems, then conduct training programs for subordinate personnel, process follow-up meetings, and conclude by supporting client efforts with occasional expert advice.

While change agents can adopt a range of roles, this does not mean that all change agents are sufficiently flexible or that client systems provide the opportunity for change agents to take different roles. Some change agents specialize exclusively in the trainer role; others lack the access or stature to provide analysis to top management. Individual characteristic and competency variables and situational constraints interact to determine the roles a change agent can take. One method of assessing the dynamic aspects of change agent role-taking in situations is to identify dimensions on which roles can vary. Ten such dimensions, grouped under four headings--expertise, stance, focus, and approach--are illustrated in Figure 14.

Expertise refers to the extent and content area of change agent knowledge or skill. Specific technical expertise measures the change agent's familiarity with the client's work process or technology (e.g., radar electronics or infantry tactics). Internal change agents (except technical experts), while less knowledgeable than operating managers or technical personnel, tend to be more knowledgeable about their organization's specific technology than external change agents are.

FIGURE 14

Hypothesized Dimensions for Describing Consultant Roles



General expertise refers to the change agent's knowledge of generic organizational, management, or research principles relevant to the client's operations. For example, a consultant who specializes in information systems design may know relatively little about military as opposed to health or industrial organizational operations, but will have a generic expertise that can be applied to all of these systems. Interpersonal expertise refers to the change agent's competence in interpersonal transactions (for example, in creating an environment of psychological safety).

Stance refers to the change agent's personal and positional power and relationship to the client. The power dimension assesses the status and influence of the change agent vis-a-vis the client. A change agent's power may be a function of his personal characteristics (e.g., a commanding presence or academic reputation), formal position (e.g., military rank or legal powers as affirmative action representative), or the support given him by the client. Locus describes the consultant's independence as opposed to personal involvement in the client situation. Browne et al. (1977) call this dimension "marginality," where high marginality implies perspective, an independent frame of reference, detachment, and neutrality. Goal congruence describes the extent to which the change agent and client share the same objectives, values, standards of appearance and conduct, and the like. External change agents usually have more power, are more marginal, and hence perhaps better able to provide an independent perspective on client problems. They are also less likely to be goal congruent with clients.

Focus refers to the way in which consultants conceptualize problems, hence the data they collect and the interventions they use. Task focus measures the change agent's concern with individual, work group, and organizational performance. Interpersonal focus describes the degree of a change agent's concern with individual feelings and non-task-related group dynamics.

Intervention approach refers to the style a change agent uses in dealing with his clients. The directive-collaborative dimension measures the extent to which the consultant unilaterally imposes diagnoses, intervention methods, or solutions on the client, as opposed to working collaboratively with the client to develop joint approaches. The didactic dimension describes the extent to which the change agent conceptualizes his role and acts as a trainer with clients who assume the role of students. These ten dimensions are not exhaustive: There are doubtless other variable continua which could be used to describe a change agent's role with respect to a client. A change agent can and would be expected to shift positions on dynamic dimensions with

different clients and at different points during the course of an intervention. For example, a consultant could take a more or less directive role or shift from a task to an interpersonal focus, depending on the contingencies of the situation; if effective, his power may increase. The conceptualization of change agent role dimensions as continuous variables provides for dynamic as opposed to static assessment of role behavior at any point in time or in any situation.

A study of internal military consultants (Spencer, 1976) suggests that a task-oriented, goal congruent collaborator in a problem-solving role is most effective in military organizations. This study identified three types of military OD consultants on the basis of six variables which predicted respondents' behavior and success:

- values and attitudes toward the military as a client;
- perceived purpose and role as consultants;
- consulting style;
- knowledge of behavioral science techniques;
- peer influence; and
- military career commitment.

The three types identified were as follows.

1. "Social Advocates": consultants (primarily junior officers initially trained as race relations facilitators) who felt their mission was to force change programs on a client whether the client wanted them or not. They tended to believe that military organizations were prejudiced, inhumane, authoritarian institutions that "harmed people and needed to be set right so that men came before mission, not the other way around." These consultants' perceived purpose was to catch the system and its members in "bad" behaviors, to heighten awareness, and so to "get people to change, if we really have to shake them up." Their resulting style of consulting, in its extreme form, was a confrontive, social advocacy approach which often resulted in name calling, in labelling clients and/or attacking their values and behaviors, or in flat refusal to work with resistant clients ("If the CO doesn't give a damn or want to change, I tell him so and tell him he's not ready for us--I won't work with people like that"). These consultants reported that most of their clients were resistant and most of their interventions "failures--those people just went through the motions, but no one really changed."

Paradoxically, these change agents tended to be well versed in the behavioral science theory (if not practice) and highly articulate, especially in marshalling arguments for democratic-participative managerial styles and experiential "touchie-feelie" consulting techniques. As a result, these consultants tended to have considerable influence with their peers in internal consulting groups, an influence the COs of these commands frequently experienced as subversive to mission accomplishment. Social advocate consultants were decidedly not committed to careers in the military. A very large percentage of these persons expressed their intentions to (and actually did) leave the military after their tour in an OD billet--many to attend graduate school or take jobs in one of the behavioral science or helping professions.

2. Subordinate Technicians: consultants (primarily personnel from technical specialties without much formal education, background, or interest in behavioral science) who, in their own words, "simply did not know what was going on, what all this stuff was about." These persons lacked the knowledge and skills to contribute much to OD consulting activities, rarely went out on consulting assignments, and felt they were "spending two years in a billet doing nothing." Most expressed feelings of boredom and frustration, and wanted to get back into their technical specialties and "real jobs in the real military."

3. Client-Centered: consultants (primarily senior officers and E7-E9 enlisted personnel) who believed that the military services were basically good organizations that could be made better with appropriate client-centered assistance. They perceived their role as helpers, resources to be utilized by client commands to further these commands' (not the consultants') agendas. These change agents' consulting styles emphasized "taking a client where he is," "letting him buy in at the minimum level," respecting military norms, and using minimum depth-of-intervention techniques ("only what's useful to the client in his own terms--not any personalized touchie-feelie stuff if I can help it"). Client-centered consultants were primarily task and results oriented, frequently initiating evaluation efforts to try to document the outcomes of interventions.

Client-centered consultants were also well-versed in behavioral, managerial, and organization development theory, but emphasized that they put a premium on being flexible and using only those theories and techniques that made sense to their military clients. These consultants tended to express a contingency rather than normative theory of leadership (i.e., acknowledging that traditional military authoritarian leadership was appropriate and effective with certain tasks and subordinates).

These consultants had considerable peer influence with others who shared their beliefs, especially when they formed a critical mass in a consulting group. They tended to devote their energies to developing a first-rate consultant team that concentrated on serving its own clients rather than on changing the values and attitudes of other consulting command personnel. Almost all of these consultants were career military, strongly committed to the organization. These consultants reported that most of their interventions were successful: "Almost everyone got something out of the experience he or she could use."

The early phases of an internal OD program (or any reform movement) may attract a disproportionate number of social advocate candidates who are motivated by a burning desire to change things. Experience indicates that these persons may not be the most appropriate OD consultants.

Figure 14 graphs the social advocate and client-centered roles on the proposed ten role dimensions. The roles of both types of change agents were approximately equal in specific and general expertise, power, and independence. Client-centered consultants were relatively high in interpersonal expertise and goal congruence, moderate to high in task focus while remaining moderately concerned with interpersonal issues, and moderate to low in directiveness (i.e., high in collaborative approaches) and didactic emphasis. Social advocates were lower in practical interpersonal expertise, low in goal congruence, focused more on interpersonal than on task issues, and were at either the high or low extremes of the didactic and directiveness scales. Directive and didactic social advocates tended to lecture clients on how they should behave. Humanistic social advocates refused to provide initiatory suggestions, preferring to "trust the flow" and by abstaining, "force the client to take responsibility for himself."

The client-centered or collaborator in problem-solving change agent profile appears more appropriate for internal military OD consultants.

Summary

Change agent variables include consultant background, characteristics, competencies, and role descriptors. Consultant role behaviors result from the interaction of these factors with the situational variables presented by the client characteristics and problem. Change agent characteristics appear to be relatively unimportant in determining success in interventions. Differential consultant competencies are most likely to account for variance in appropriate role behavior, and hence in change agent effectiveness.

CHAPTER III. CLIENT VARIABLES

Client descriptors are identified in the organizational change literature as antecedent variables which have implications for the roles and intervention methods change agents use during the intervention process. Client variables can be divided into three categories: client system characteristics (e.g., organization size or uncertainty of external environment and internal resources), client problems (e.g., poor management, intergroup conflict, or high turnover) and client recipient characteristics (e.g., the values of the specific persons who sponsor or are the target of the change effort).

Client System Characteristics

Client system variables describe the relatively fixed antecedent characteristic or "contextual" variables of the client organization and exogenous environment in which the change effort takes place.

The traditional literature on client system structure and function is derived from sociological theory and research on bureaucratic organizations. This literature has not produced an agreed upon schema for typologizing organizations. Among organizational theorists, for example, the relative importance of an organization's technology (Perrow, 1973; Thompson, 1967; Woodward, 1965; Lawrence & Lorsch, 1969; Hickson et al., 1969), an organization's internal structure (Hickson et al., 1969), and the nature of power relationships within an organization (Etzioni, 1975) remains unresolved and there is considerable debate among the major proponents of the different typologies (Child, 1972; Davis & Taylor, 1975).

Writers on organization development question the relevance of these typologies for change interventions because typologies based upon differences in manifest functions or overall accountability are not clearly related to organizational processes. Perrow (1973) argues that such typologies have been constructed on the basis of "characteristics which are of little use to anyone."

Organizational change agents and theorists, conversely, either tend to treat all organizations as equivalent for purposes of intervention (Warwick, 1973), make distinctions on the basis of differences which Perrow dismisses as being atheoretical and unhelpful, or restrict their comments to the idiosyncratic characteristics of their client system.

Two commonly used organizational change models are the Kast & Rosensweig (1970) systems model, and the Likert (1973)/ Franklin (1973) causal flow models. Kast and Rosensweig identify organizational characteristics in terms of five major components or factors: (1) structure or organizational design; (2) technology: job tasks and production processes; (3) mission, organization goals and values; (4) people; and (5) management which integrates the other four factors. The Likert/ Franklin causal flow model identifies components organized in a dynamic interaction: (1) organizational climate (considered as an antecedent causal variable); (2) supervisor; (3) subordinate/peer; (4) work-group process (organizational climate considered as an intervening variable); (5) performance; and (6) satisfaction variables.

A model combining the elements of these models with the addition of an exogenous "environment" variable is illustrated in Figure 15 (Spencer, Klemp & Cullen, 1977).

The seven organization components or facets in this model are as follows.

1. Exogenous variables describe factors outside the organization, such as the economy, culture, competition, relations with supplier or customer organizations, union, legal, regulatory, or political influences.

2. Organization structure variables describe the demographics, formal reporting relationship designs, legal regulations, procedures, and policies of the organization as a whole.

3. Supervisor variables describe supervisor behavior, managerial practices, or style.

4. Job variables describe the work itself (the physical setting, technology, design variety, meaningfulness or intrinsic feedback resulting from task activities in the organization).

5. Subordinate variables describe the personalities, motivation, skills or other characteristics of individuals in the organization or peers in work-groups.

6. Work-group(organizational climate) variables describe working relations in work-groups (peer leadership, interactions involving face-to-face contacts, cooperation or conflict, norms, standards, rules, policies, and procedures) or the larger organization.

7. Outcome variables are measures of organizational results in terms of the degree to which the organization achieves productivity, efficiency, goal or mission accomplishment outcomes, and satisfaction (the degree to which members feel positive about themselves, their organization, supervisors, job, co-workers--affective evaluations of motivation, satisfaction or morale). Satisfaction may also be evidenced indirectly in measurable organizational outcomes such as turnover or retention rates, grievances, or health.

Figure 15 organizes these components in a causal flow sequence which indicates how component variables influence one another to produce organizational outcomes. Because this model includes most of the variables found in the literature on client characteristics, it provides a conceptual framework for the following discussion.

Empirical research approaches such as those developed by Dunn & Swierczek (1977) and Srivasta et al. (1975) can be used to test specific hypotheses and identify the more relevant and parsimonious typologies. Until sufficient data is generated, however, any research effort has to be fairly exhaustive in its description of client system characteristics which appear to have relevance for intervention processes.

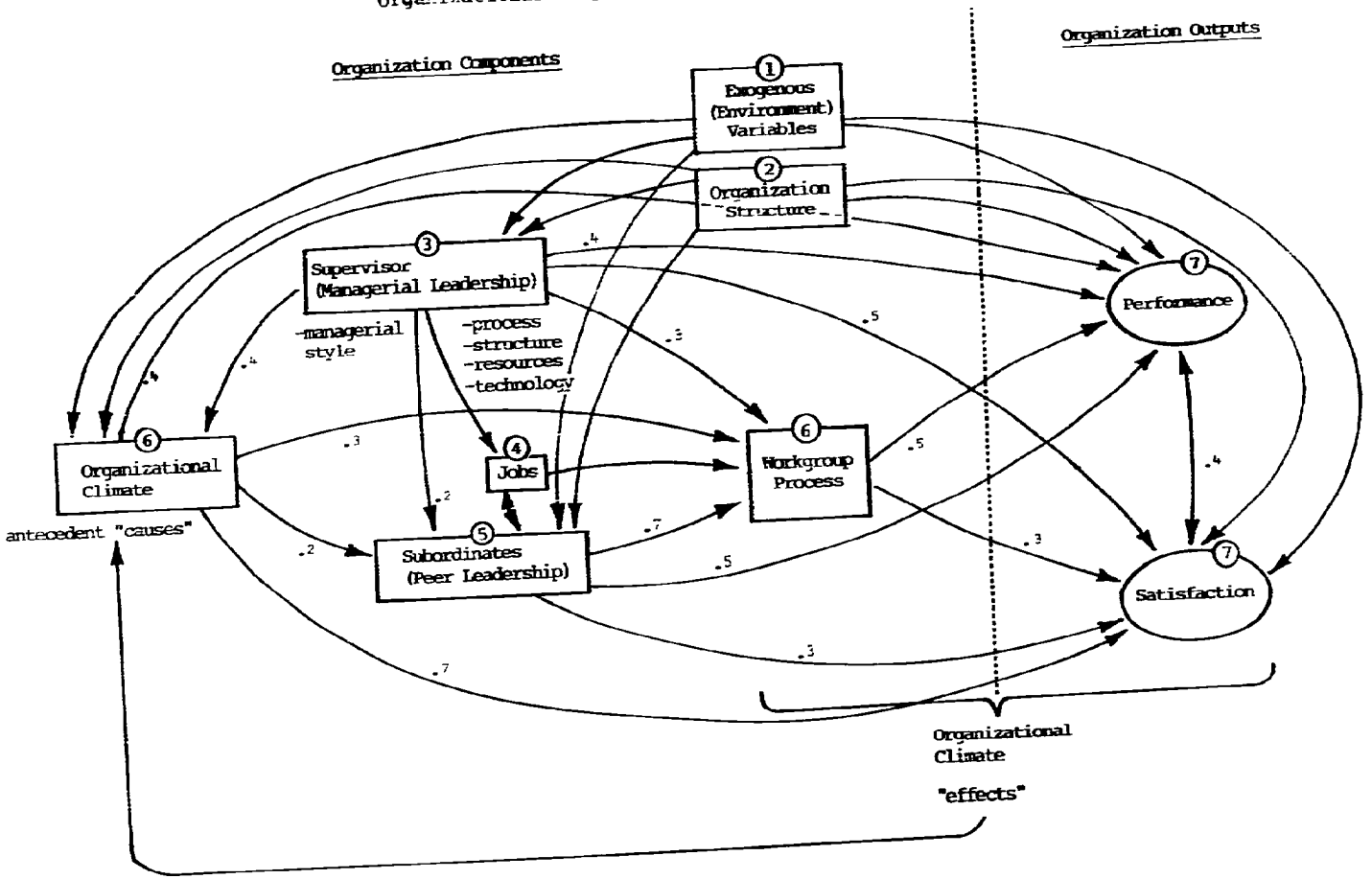
This review organizes client system characteristics in terms of six variable categories: organization demographic and structure, management, job technology, subordinates, work group/organizational climate, system (outcome) effectiveness, and organizational uncertainty (exogenous and internal). Table 8 references variables cited in the literature by these categories.

Organization Demographic and Structure Variables

Demographic variables included organization size, age, mission (industry product line or service function), private versus public ownership, occupational status of employees, geographic and national location, and area of operations. These characteristics have obvious implications for change efforts: size has implications for the magnitude of the effort; mission, ownership, occupational status of employees, and nationality have implications for the types of interventions that may be

FIGURE 15

Organizational Components in a Causal Flow Model



Feedback Loop:
Positive (or "vicious") circle of continuing high (or low) morale.

Explanation: Causal flow models assume that organizational climate can be both an antecedent "cause" of organizational functioning and an intervening variable "effect" of it. It acts as a cause when a command's existing reputation as a high morale, effective unit—or a "loser" group—motivates or demotivates organizational members. Supervisors can influence jobs in the organization by changing processes, structures, resources or technology. Supervisors impact on subordinates directly with their managerial styles. Supervisor-subordinate-job interactions produce Group Processes which result in organizational performance and satisfaction outcomes. Members' perceptions of organizational group processes and outcomes describe Organizational Climate as an "effect" of organizational functioning. Exogenous variables—the larger economy, culture, market receptivity to the organization's products, etc.—impact the organization's members and its outcomes.

TABLE 8

Organizational System Characteristic Variables

Organizational Characteristic	Illustrative Resulting Issues For Change Agents & Clients
<u>Organization Demographics and Structure</u> Demographics • size, age, mission, geographic location, resources, nationality (Srivasta, et al., 1975) Structure • components → "Organizational variation" (Giblin, 1976) → Antagonistic factions (Warwick, 1973; Biggart, 1977) → Different professional groups (Sebring & Duffee, 1977; Topliss, 1974) → Union vs. nonunion (Kochan & Dyer, 1976; Franklin, 1976; Yoshido & Torihara, 1977; Srivasta et al., 1975) → Multiple clients (Brown, 1976; Clark, 1975; Sebring & Duffee, 1977) → Cliques (Tichy, 1973) • authority and reporting relationships → Organizational "style" (Giblin, 1976) → Structuring (Hickson et al., 1969) → Roles defined by law (Siegfried, 1975) → Upper-level policies and regulations (Toronto, 1975)	• Magnitude and location of effort • Type of intervention culturally appropriate • Amount of conflict generated by any change in goals, values or practices • Who should be involved in sanctioning any change effort, in generating diagnoses, and in determining action steps • The level at which significant changes can take place and can be expected to "take" • Size and make-up of target group that can be worked with meaningfully • Degrees of freedom possessed by change agent & client

(Table 8 continued)

→ Concentration of authority (Hickson et al., 1969; Siegfried, 1975) → Compliance (Etzioni, 1975) → Lower level influence (Bowers & Hausser, 1973) → Power (Perrow, 1970) → Legitimacy of interpersonal influence (Bennis, 1966)	• The level at which change agent needs to seek sanction for change • Effective way of influencing
Management	
• managerial goals	
Goal orientation (Perrow, 1970) Human resource primacy (Bowers & Hausser, 1973)	• Type of criterion change agent will be evaluated on
• management style	
→ Supervisory leadership (Bowers & Hausser, 1977) → Peer leadership (Bowers & Hausser, 1977) → Lower level influence (Bowers & Hausser, 1977) → Authoritarian vs. consultative (Vroom & Yetton, 1973) → Task vs. people orientation (Blake & Mouton, 1969; Hersey & Blanchard, 1977; Reddin, 1970) → Distribution of Information (Dunn, 1978; Meyer, 1976) → Style of conflict resolution (Clark, 1975; Likert & Likert, 1976; Blake, Shepard & Mouton, 1964)	• Interpersonal norms the change agent will face • How change will be implemented • How conflicts are resolved
• management control (reward and punishment contingencies)	
→ Personnel procedures (Evans, 1974) → Motivational procedures (Bowers & Hausser, 1977; Etzioni, 1975) → Reward structures (Purcell, 1974; Evans, 1974)	• Means available for overcoming resistance or enhancing involvement • Likelihood that change will "take"

(Table 8 continued)

→ Civil service system constraints (Giblin, 1976; Warwick, 1973) → Union contract constraints (Kochan & Dyer, 1976; Yoshido & Torihara, 1977)	
Job Technology	
→ Production process (Woodward, 1965) → Integration of work-flow process (Pugh et al., 1969) → Job design principles (Davis & Taylor, 1976)	• Ramifications of any direct or indirect attempt to change the work process • Amount of necessary interaction between organizational members • Size and composition of target group that can be worked with meaningfully
Subordinate	
→ Demographics: age, sex, race, ability, education, skill level, length of employment, geographic origin, nationality, culture (Srivasta, et al., 1975) → Occupational status (Srivasta, et al., 1975) → Motivation (Srivasta, et al., 1975; Hackman, 1977; Litwin & Stringer, 1968) → Peer leadership (Bowers & Hausser, 1977)	• Degree and type of employee motivation • How employees prefer to be managed
Workgroup/Organizational Climate	
→ (Likert & Likert, 1976; Bowers & Hausser, 1977; Litwin & Stringer, 1968; Spencer, Klemp & Cullen, 1977) → Trust (Dunn, 1978; Friedlander, 1970) → Morale (Yin et al., 1977) → Progressivism (Franklin, 1976; Clark, 1975)	• Interpersonal norms the change agent will face • Openness of system to change, innovation • Amount of risk-taking that will be acceptable

(Table 8 continued)

System (Outcome) Effectiveness	
→ Technical competence (Stuart-Kotze, 1971; Carter, 1976) → Interpersonal competence (Stuart-Kotze, 1971) → Effectiveness (Giblin, 1976) → Maturity (Hersey & Blanchard, 1977; Derr, 1976; Spencer, 1977)	• Change method that client most readily able to use • The system's ability to tolerate additional strain associated with a particular change strategy • Change agent role most appropriate to client group stage of development
Organizational Uncertainty	
• internal → Stability of budget (Giblin, 1976) → Planned personnel turnover (Siegfried, 1975)	• Flexibility of change strategy • Time horizon of change effort • Where change effort should focus attention, e.g., pre-job or on-the-job training • Who should be principal target of change
• internal or external → Time horizon (Giblin, 1976; Siegfried, 1975) → Unplanned personnel turnover (Warwick, 1973; Sebring & Duffee, 1977) → Task environment regularity & predictability (Dunn, 1978)	
• external → Changes in market situation (Frank & Hackman, 1975; Luke et al., 1973) → New legislation (Sebring, 1977)	

appropriate. Demographic characteristics do not directly describe how an organization functions, but may predict other organizational characteristics which are more directly relevant.

Structure variables include the number and nature of the components or subgroups within the client system, the formal authority relationships among these components (e.g., the arrangement of boxes and reporting lines on an organization chart), and the laws, rules, or role requirements which describe--and constrain--how the organization functions.

Organizational components can include workgroups within the organization, competing interest groups such as marketing, research and development, production and personnel departments, and the presence or absence of unions. One or more of these groups can be the change agent's client and can support or oppose change efforts.

Sebring & Duffee's (1977) case study of an intervention in a state correctional system provides a good illustration of the potential negative implications of having more than one client (i.e., the prison superintendent and the director of vocational education programs) who not only had different professional backgrounds but also belonged to separate organizations. In contrast, Yoshido and Torihara's (1977) report of a job enrichment and job enlargement change effort in Japan demonstrated that a change effort can gain added legitimacy if groups with different goals and interests support the change effort.

Strauss (1977), Beer & Driscoll (1977), and Srivasta et al. (1975) describe the implications of unions, union contracts, and work roles for implementing job designs and related organizational interventions. Unions tend to be perceived as resisting organizational development and job enlargement/enrichment efforts, but may be supportive if allowed to participate in the design of changes.

Lawrence & Lorsch (1970) and Galbraith (1970, 1973) describe the importance of identifying (differentiating) key organizational components and functions to help integrate their activities through appropriate interventions.

Formal authority and responsibility regulations can determine how power is distributed within the organization and how it is used, the amount of role specialization and role specification that exists in a system, and constrain the changes that are possible or advisable through OD intervention.

Siegfried's (1975) reflections on the role of change agents in the military underlines the problems of introducing change at one level when the amount of change that is feasible or even

allowable is determined at higher levels in the client system or outside the system. The need to follow the chain of command, for example, may increase the complexity of the change process if activities have to be cleared by senior officers. Conversely, insofar as role specifications indicate a certain independence between command units, change agents can isolate certain groups and work with them without worrying about the effects on (or resistance from) contiguous units.

Management Variables

These variables include the goals, styles, and control mechanisms of an organization's leaders and managers. The term "system goals" refers to the client system's overt or covert definition of its objectives. Management goals, in the simplest division, are typologized by the extent to which managers care about task accomplishment (goal orientation--Perrow, 1973) or interpersonal relations (human resource primacy--Bowers, 1977). The types of goals dictated by an organization's mission (e.g., profits or combat preparedness ratings) and the nature of interpersonal relations it considers ideal (e.g., friendly socializing among members, with proper etiquette and respect among persons of unequal status) are numerous and must be defined for each organization. Perrow (1973), for example, distinguishes between those goal-oriented organizations which place the highest value upon the functioning of the system as a whole, the profitability (cost effectiveness) of the system, and the quality of the product or service provided by the system. Some organizations may espouse one set of objectives, but in fact operate to maximize other objectives. Organization goals have implications for the design of the change effort. Change agents who mistakenly attribute the wrong goal to a client are likely to experience subsequent difficulties. A client system that is primarily concerned with the bottom line can be expected to demand hard evidence of change, whereas a client system concerned with its internal functioning may be more willing to accept changes in satisfaction and attitudes.

Management style describes the ways in which leaders manage. The two most common methods of classifying managerial style are authoritarian versus consultative practices (Likert & Likert, 1976; Vroom & Yetton, 1973) and task versus people orientation (Blake & Mouton, 1964; Blanchard & Hersey, 1977; Reddin, 1970). Related descriptions of managerial styles include the extent to which lower level personnel are allowed to influence decisions (Bowers & Hausser, 1977), the extent to which information is distributed among all members of an

organization (Dunn & Swierczek, 1977; Meyer, 1976), and the ways in which conflicts are resolved (Clark, 1975; Likert & Likert, 1976; Blake, Shepard & Mouton, 1968). At the minimum, change agents need to understand the managerial style norms of client organizations and not transgress these norms (e.g., not insist that first names be used in a group of military personnel of differing rank). Consultants may need to conform to the client managerial methods to accomplish intervention objectives. For example, if the change agent needs to collect data from enlisted men in a short period of time, his most effective technique is likely to include being considerably more authoritarian or directive than would be appropriate in other intervention activities.

Management control describes the reward and sanction powers managers can use to motivate and control subordinates, given the constraints imposed by civil service systems, union contracts, or collective bargaining procedures, and the nature of an organization's management information (MIS) and control (MCS) systems. Reward and punishment contingencies, the allocation of financial and status rewards, promotion, and firing are important antecedent variables and action levers for organizational change. Change agents are often advised to identify what an organization really rewards (e.g., who gets ahead--skillful power players--and who does not--good bottom line performers who lack "visibility").

Where change efforts involve a relative redistribution of some valued resource, those involved in the change can be expected to seek compensating rewards or to resist the change. Yoshido & Torihara (1977) and Kochan & Dyer (1976) discuss the need for an equitable distribution of benefits stemming from a change in work processes. Private organizations usually have greater flexibility in allocating rewards to reinforce change than do public organizations. Civil service regulations and military pay scales permit only limited adjustments. At the same time, civil service regulations and other tenure agreements minimize the utility of negative sanctions.

Two authors (Evans, 1974; Purcell, 1974) observe that, in existing organizations, reward contingencies reinforce certain types of behavior. Where this behavior is part of the target for change, the client and the change agent must also be ready to adjust the bases for rewards. For example, Purcell noted that the introduction of an affirmative action program was reinforced by the existence of a system that rewarded the development of subordinates.

Etzioni (1975) identifies the material and nonmaterial rewards clients and change agents can use to reinforce change in coercive, utilitarian, and normative organizations.

Job Technology Variables

These variables include the design of jobs, the nature of the production process, and the physical plant, equipment, and environment an organization provides its employees (e.g., such hygiene factors as lighting, sanitation, noise, vibration, exposure to toxic chemicals, and unsafe conditions which affect employees' health and physiological security).

Job design and work process variables have clear implications for the types of intervention that may be possible. Hackman (1977) observes "organizations which have huge investments in stationary equipment may find it impossible to meaningfully change the jobs of machine operators." Friedlander & Brown (1974) similarly note that in a continuous process technology, it may be nearly impossible to design jobs with high task identity. Anderson (1970) reviewed job enrichment studies conducted in service, heavy assembly, electronics, and continuous process systems, and he found that results were dependent in important ways on which technology was involved. Service organizations have the greatest latitude in job design (Hackman, 1977; Walton, 1972, 1977). Changes in job technology often involve changes in organizational structure; technologies requiring more specialized roles and processes are more difficult to change. Intervention in an assembly-line technology is more likely to have ramifications for power relationships. Interventions with integrated work processes affect the role relationships and functional interdependencies of contiguous individuals and work-groups. For example, one attempt to enrich a process monitoring job necessitated that process monitors acquire a maintenance engineer's skills while the maintenance engineer acquired the process monitor's skills. This involves a more complex change effort than one that allows individuals to do different tasks that require the same basic skills. Job redesign interventions may therefore be easier with a mass production or with batch product tasks (Woodward, 1965).

Manipulation of hygiene and physical environment factors has been a focus of industrial psychology since its inception; a recent review is available in Chapanis (1976). Steele (1973), in a recent book on physical settings, has developed a variety of organizational development intervention techniques which combine physical and psychological approaches to six "functions" of the work environment: provision of shelter and security, social contact, symbolic identification, task instrumentality, pleasure, and growth.

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Subordinate Variables

These variables are described in terms of demographic characteristics (age, sex, race, education, geographic origin, nationality, culture), motivation, type and level of skills, nature and amount of motivation, level in the organizational hierarchy, and peer leadership (the extent to which employees encourage one another to perform well). The implications of organization subordinate antecedent characteristics include the following generalizations. Subordinate motivation must be considered in job redesign: Motivated workers with higher level growth needs will respond to enriched or enlarged jobs with more responsibility, but employees lower in motivaton may not (Srivasta et al., 1975). Lower level workers are more likely to be affected by changes in organization and context structure. Better educated, higher level professional and technical employees in noncrisis situations requiring individual discretion and innovation are more likely to respond to consultative or participative interventions and managerial styles. Lower level, less motivated subordinates in routine or crisis situations may respond more to unilateral structured interventions and managerial styles (Blanchard & Hersey, 1977).

Workgroup/Organizational Climate Variables

The organizational climate, considered as either an antecedent or intervening variable, refers to the general nature of the interactions within a client system or work-group. Interpersonal norms, for example, will determine how a change agent and a client handle problems that emerge within the change process. Sebring & Duffee (1977) noted that difficulties arose from change agents' being forced to adopt the low trust and low risk-taking behavior endemic to their client's system.

Change Strategies and Organizational Climate

Bowers (Bowers, 1973; Bowers & Hausser, 1977), in one of the few empirical studies dealing explicitly with organizational climate characteristics, conclude that the effectiveness of a change strategy adopted by the change agent is related to the client system characteristics. Bowers used a multiple wave survey to measure three general organizational characteristics: (1) organizational climate; (2) supervisor leadership; and (3) peer leadership. (See Table 9 for definitions of the actual scales.) The survey covered some 2319 workgroups in 23 sites. On the basis of multivariate analysis of responses, Bowers & Hausser noted the following:

TABLE 9

Scale and Subscale Definitions for
Bowers & Hausser (1977) Organizational Profile Scores

Organizational Climate

1. Decision-making practices - how decisions are made in the system; whether they are made effectively, at the right level, and based upon all of the available information.

2. Communication flow - the extent to which information flows freely upward, downward, and laterally through the organization.

3. Motivational conditions - the extent to which people, policies, and procedures in the organization encourage or discourage effective work.

4. Human resources primacy - the extent to which the climate, as reflected in the practices of the organization, implies that people are among the organization's most important assets.

5. Lower-level influence - the extent to which nonsupervisory personnel and first-line supervisors influence the course of events in their work areas.

6. Technological readiness - the extent to which the equipment and resources are modern, efficient, and properly maintained.

Supervisory Leadership

1. Support - supervisory behavior that increases the subordinate's feeling of personal worth.

2. Work facilitation - behavior by supervisors that removes obstacles that hinder successful completion of tasks, or provides the means necessary for successful performance.

3. Goal emphasis - behavior that generates enthusiasm, not pressure, for achieving high performance levels.

4. Team building - behavior that encourages subordinates to develop mutually satisfying interpersonal relationships.

Table 9 (continued)

Peer Leadership

1. Support - behavior toward one another which enhances each member's feeling of personal worth.

2. Work facilitation - behavior that removes impediments to working effectively.

3. Goal emphasis - behavior that stimulates enthusiasm for effective performance.

4. Team building - behavior toward one another which encourages the development of close, cooperative working relationships.

Group Process - the processes and functioning of the work group as a group; for example, adaptability, coordination, and the like.*

Satisfaction - a measure of general satisfaction made up of items tapping satisfaction with pay, the supervisor, peers, the organization, advancement opportunities, and the job itself.*

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*Group process and satisfaction scores are added to peer leadership scale scores for purposes of deriving organizational profile scores.

- Seventeen statistically distinct organizational profiles can be identified on the basis of the scores on the three major scales and the variation of scores between the same scales.

- Of the five general change strategies examined, survey feedback and interpersonal process consultation were clearly superior in terms of producing positive changes in profile scores. The remaining strategies--data handback and laboratory training--were found to have a neutral or detrimental impact on profile scores.

- Change efforts had their greatest impact on profile scores where the orginal profile scores were balanced and were below the median (that is, had scores around the 30-40 percentiles on each of three scales), or where supervisor leadership was low.

The prescriptive implications of these findings are summarized in Table 10.

The study, however, has a number of limitations. First, only 55 percent of the possible combinations of organizational profile and change strategy were covered. Second, the categorization of change methods was fairly gross. No account, for example, was taken of the size of the change effort, the nature of the specific problem, or the length of time and amount of resources devoted to the change effort. Third, no allowance was made for variations in change agent effectiveness (Franklin, 1976). Finally, no explanation was given for the empirical interaction between profiles and change strategies. It is unclear whether supervisor leadership is a dependent or an intervening variable. (Payne & Pugh, 1977 argue this is a limitation in all Likert survey studies: An organizational climate characteristic may be a source of the problem, or be a moderating or intervening variable). Despite these limitations, Bowers' study does indicate that the internal characteristics of an organization have a potential impact on both choice of change strategy and on the overall effectiveness of that change strategy.

System/Outcome Effectiveness Variables

These variables include both the general capacity and the degree to which an organization accomplishes its goals. Stuart-Kotze (1972) uses a distinction between technical and interpersonal competence of the client system to determine which change technique is most suitable, but presents little empirical evidence to support his intuitively acceptable conclusions.

TABLE 10

Intervention Method Prescriptions
from Organizational Climate Scores
(Bowers, 1973)

If Organizational Climate Survey Scores are in this range: (Percentile)	Prescription:
85 - 100	DO NOTHING. For work groups which are functioning particularly well, organization development interventions either have no effect or make things worse, perhaps because people's feelings are stirred up about problems which were not apparent before.
25 - 85	SURVEY-GUIDED DEVELOPMENT methods are most effective, i.e., result in significant improvement in climate scores in both civilian and military organizations.
0 - 25	PROCESS CONSULTATION METHODS are most effective--resulting in statistically significant improvements in organization climate in work groups with serious problems. Survey-guided development approaches may not be effective with particularly poor work groups because personal issues and conflicts are too strong and/or work methods are too confused for members to want to focus on abstract survey data. In these cases, change agents must first deal with immediate interpersonal problems and help the work group identify objectives and organize to accomplish its mission in its own terms.

Table 10 (continued)

Effects of Other Methods

DATA HANDBACK (dump and run) techniques are ineffective with all work groups.	Simply handing survey (or other diagnostic) data back without training in survey concepts, interpretation and problem-solving activities does not result in measurable organizational change.
LABORATORY (T-GROUP) TRAINING causes negative reactions in all work groups.	Unstructured sensitivity training sessions appear to make things worse in both civilian and Navy organizations, probably because they are not task- and problem-solving focused and/or are perceived as requiring excessive individual exposure.

The impact of overall organizational effectiveness in change efforts has been a matter of debate. Giblin (1976) argues that only an effective organization can manage a change process. While it is clear that to undertake a change effort an organization must possess discretionary resources, most evidence seems to suggest that change efforts are most effective where the organization is suffering from a significant problem (Greiner, 1967). Moreover, an analysis of Bowers & Haussers' (1977) data indicates that those organizations with high scores on the organizational profile do not benefit from any change technique.

The data suggests that the optimal motivation for change (Strauss, 1976) lies in a moderate to strong dissatisfaction with current levels of performance. It is unclear from the existing data how effective organizations can benefit from change efforts. It can be argued that just as good physicians do not prescribe unneeded medicines for patients in good health, honest change agents should advise healthy clients not to change.

A final effectiveness variable which may be important in change agent practice is the concept of an organizational life cycle leading to organizational maturity.

Blanchard & Hersey (1977), building on small group dynamics theory, argue that work-groups and organizations go through four stages of increasing maturity. In the first stage, group members are dependent. The appropriate managerial, consultant, or trainer style in this situation (e.g., at the beginning of a training course) is one of high structure and task orientation and little concern for interpersonal processes. In the second stage, group members react emotionally to task requirements and challenge the leader (and one another) for leadership positions. The appropriate managerial or consultant style for dealing with fight, flight, ard rebellion reactions is to reduce task pressures somewhat and substantially increase attention to helping the group resolve interpersonal problems. In the third stage, group members are concerned with working together to build an effective team by assigning roles, establishing norms, and organizing work processes. The appropriate managerial style is to further decrease task pressures by delegating responsibilities for work to group members, while continuing to facilitate group team-building by using interpersonal (and task) process consultation techniques. In the final stage, the work-group and its members are fully mature, internally motivated, accomplishing their tasks, and meeting their

interpersonal needs on their own. At this point the manager or consultant theoretically can do nothing--further external direction or intervention is not needed.

Greiner (1972) identifies five phases that organizations go through as they develop, and describes the predictable crises which occur in each phase: the nature of the crisis is important in selecting the type of a change agent and method to be used. Greiner's model is illustrated in Figure 16.

During the first phase, growth through creativity, the organization is launched by entrepreneurs and succeeds (if it survives) through innovation and development of new products or services. The organization is small, communication and organization are informal (everyone does everything), people work very hard with high commitment, and respond to day-to-day feedback from the environment. The crisis that occurs in this stage is one of leadership when the organization grows too large to be managed informally, without clear role definitions, planning, order communication, and control mechanisms.

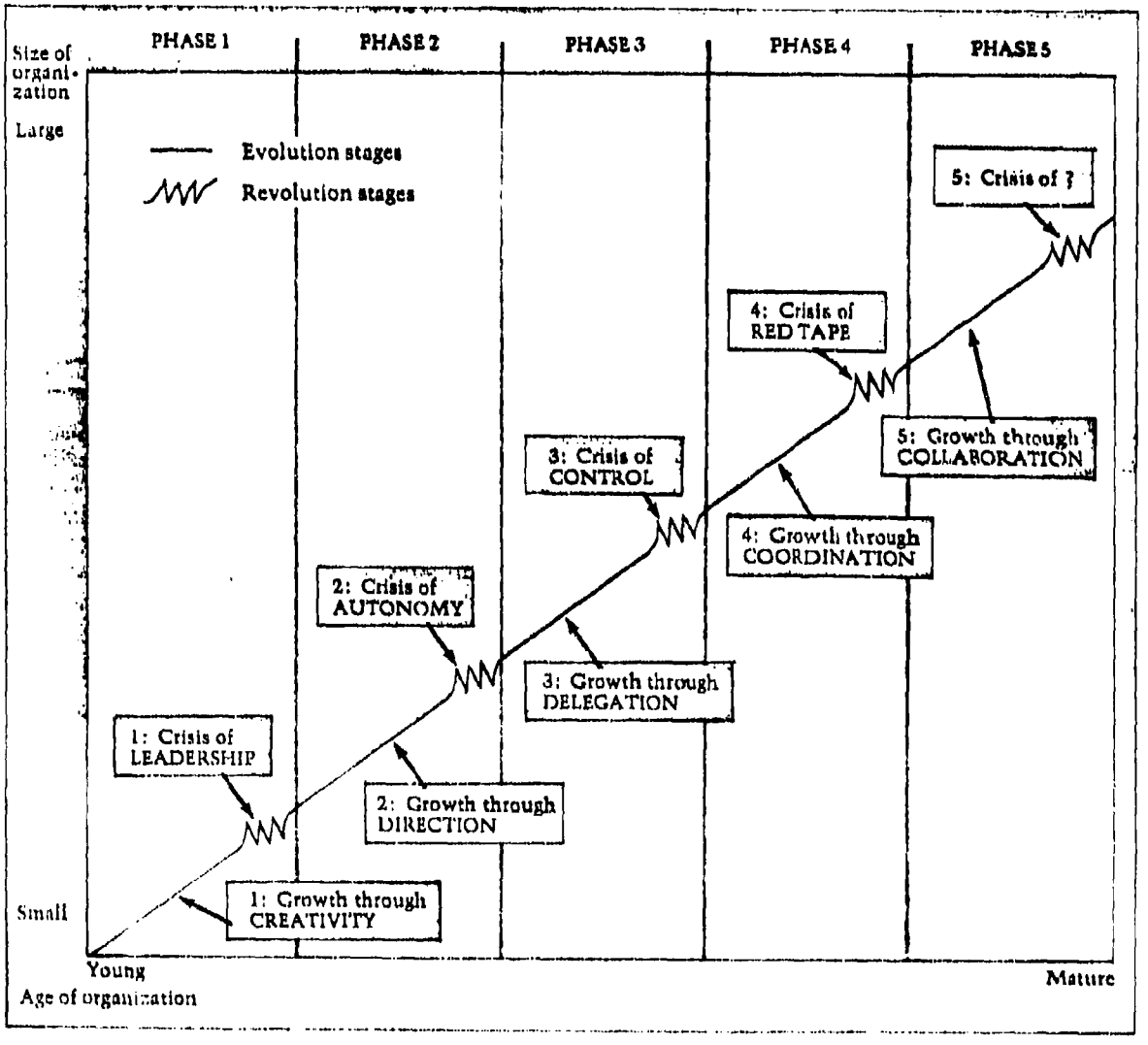
Phase 2, direction, occurs when the organization develops formal structures, usually on functional bases. Production, communications, and control mechanisms are introduced and hierarchical layers of management develop. This phase ends in a crisis of autonomy, when subordinates find rigid functional and hierarchical divisions and centralized controls demotivating and unresponsive to changing environment conditions.

Phase 3, delegation, occurs when the organization decentralizes and/or develops product management, profit centers, bonus plans, and other design mechanisms which provide subordinate managers with more responsibility, autonomy, and opportunities for independent initiative. This phase leads to a crisis of control: Decentralized managers either fail to coordinate functions, plans, and resources or compete with one another, causing lowered organizational performance.

Phase 4, coordination, occurs when the organization develops mechanisms--formal planning procedures, numerous staff positions--to integrate the activities of disparate organizational components. Coordination mechanisms can create a crisis of red tape or bureaucracy. Line managers resent staff interference; staff units find line groups uninformed and uncooperative. Organizational performance begins to suffer from elaborate bureaucratic procedures and paperwork which stifle initiative and delay decisions.

FIGURE 16

Phases and Crises in the
Development of an Organization
(from Greiner, 1972)



Phase 5, collaboration, occurs when the organization develops task forces, matrix designs, conflict resolution, and team-building, OD, and other behavioral science programs with reduced staff positions and simplified control systems to create more spontaneity and interpersonal communication among organizational members. This phase may lead to a crisis of psychological saturation when pressures for individual achievement and interpersonal processing cause personnel to "burn out."

Greiner suggests that diagnosis of an organization's level of development can guide managers in choosing appropriate managerial styles and organizational structure and procedures (See Figure 17). Phase analysis also has implications for the choice of appropriate change agents and methods to address the task or crisis presented by the intervention phase. For example, the appropriate assistance in the creativity phase would be either a change agent who can provide innovative product or marketing ideas (the critical task of this phase) or assistance in organizing personnel into functional groups and developing planning and control mechanisms (the responses needed to deal with the crisis at this phase).

Derr (1976) and Spencer (1977) have identified four stages in client implementation of organization development efforts in military organizations that may have implications for internal change agent roles and change methods:

Stage 1, Introduction

In this stage, organization development concepts and methods are introduced to an organization largely unfamiliar with them, usually on a somewhat haphazard trial and error basis. These experimental efforts serve to clarify client objectives and identify appropriate intervention techniques--or, if key client personnel have negative experiences, can cause the effort to be abandoned.

The challenge of this stage is to obtain visibility, organization commitment and legitimacy for the OD program. The danger is that a major mistake or the "flakey," unfocused image that attends any new approach may result in organizational rejection of the OD effort. If successful in Stage I, the OD effort loses its alien image and becomes an accepted part of the organization's support system.

The appropriate change agent role during this phase appears to be a combination of active catalyst or marketer, and conservative, task-oriented, client-congruent practitioner. Successful consultants stimulate potential clients' interest in change efforts without threatening them. Unsuccessful change agents either are too passive, failing to market programs to

FIGURE 17

Management and Organization Variables
Appropriate to Each Phase
(from Greiner, 1972)

Category	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5
MANAGEMENT FOCUS	Make & sell	Efficiency of operations	Expansion of market	Consolidation of organization	Problem solving & innovation
ORGANIZATION STRUCTURE	Informal	Centralized & functional	Decentralized & geographical	Line-staff & product groups	Matrix of teams
TOP MANAGEMENT STYLE	Individualistic & entrepreneurial	Directive	Delegative	Watchdog	Participative
CONTROL SYSTEM	Market results	Standards & cost centers	Reports & profit centers	Plans & investment centers	Mutual goal setting
MANAGEMENT REWARD EMPHASIS	Ownership	Salary & merit increases	Individual bonus	Profit sharing & stock options	Team bonus

clients, or too threatening, overpromising the potential intervention benefits or using high risk, confrontive ("mau mau") or overpersonal ("touchie feelie") techniques which violate system norms and discredit the change effort. Change agents and clients are best advised to use relatively standardized, well-packaged, proven workshops and intervention methods (e.g., survey guided development) in this stage.

Stage II, Institutionalizaton and Standardization

In this stage, the OD effort expands in personnel, budget, and operational commitments. Emphasis is placed on standardizing intervention methods, institutionalizing programs so that they become a permanent part of the organization, and building a delivery system that can reach internal system clients.

The challenge of this phase is to implement, manage, and quality-control the delivery of an increasing volume of standard services to clients. The danger is that rigid delivery of standardized programs may be unresponsive to the needs of diverse clients, so that the OD effort may be perceived as "one more bureaucratic lay-on" or "ticket to be punched" rather than a service clients genuinely want. If successful in Stage II, the OD effort educates a broad range of clients in its available services and demonstrates to clients the potential usefulness of these services, so that clients begin to request services on a voluntary basis.

Successful change agents in this phase work to institutionalize the change program, securing for it a stable budget, an accepted place in the client system's bureaucratic structure, and a network of influential supporters. Effective consultants in this stage function as "empire builders" and trainer trainers. They work to institutionalize the change program, securing for it a stable budget, a competent staff, an accepted place in the client system's bureaucratic structure, and a network of influential supporters. If effective they develop standardized intervention procedures which have a high probability of success, train their subordinates to deliver these services, and "quality control" services delivery. Unsuccessful change agents fail to develop institutional support for the program, develop effective programs that can be delivered in volume, or adequately train their subordinates.

Stage III, Professionalization

In this stage the OD program begins to offer nonstandard "expert" consulting services to meet unique client needs on a contingency basis. Consultants are called upon by organization

managers for help with a broad range of management problems unaddressable by any single standard program (e.g., socio-technical, structural, and policy planning assignments).

The challenge of this stage is (1) the upgrading of consultant personnel and service offerings to provide expert consultation genuinely useful to clients, and (2) development of evaluation evidence that OD programs work--impact positively on hard organizational performance and satisfaction outcomes. The danger in this stage occurs when trainers and consultants exhaust their limited repertoires and fail to provide expert resources clients want. The OD effort, having delivered all the standard programs, has nothing more to offer and is dropped by the organization.

Successful change agents in Stage 3 develop the expertise to provide custom services, and a base of satisfied clients who continue to request assistance, and evaluation evidence that OD programs actually benefit the organization. Unsuccessful consultants continue to deliver the "same old programs" to a declining clientele.

Stage IV, Maturity

In this stage, the OD effort is mature--a valued, permanent support function of the larger organization staffed by professionals. These professionals serve managers who are themselves knowledgeable about OD concepts and techniques, hence sophisticated consumers who want the latest benefits of research to help them improve their leadership practices and organizational performance. The task of change agents is increasingly one of educating their clients in the latest methods and acting as technology transfer agents between the worlds of research and practice.

The challenge of this stage is for change agents to become research practitioners, capable of doing research and/or translating the effects of research from other sources to practical uses, so that they can continue to provide new and better technologies to their clients. The danger is that, as they become more knowledgeable, clients feel they no longer need consultation, decide the OD effort has accomplished its mission, and then let it diminish.

If successful in Stage IV, the change agent stays ahead of his sophisticated clients by continuously identifying or generating new technologies and transferring them to clients who, as professionals themselves, continue to demand expert assistance. Unsuccessful change agents fail to innovate or disseminate new ideas. This sequence has been observed in the development of the U.S. Navy's OD program over the past seven

years. Initial program efforts focusing on process consultation and confrontative race relations awareness workshops were replaced by delivery of a standard survey guided development intervention cycle. After three years, consultants reported increasingly (1) feeling that set programs did not meet their clients' unique needs; (2) being asked by clients for help on unique management problems "we don't have a workshop for" (i.e., for expert consultation); and (3) needing practice in generating specific suggestions to help clients solve problems.

Most of these consultants had been trained to see command problems exclusively in terms of "people problems," when in fact many clients' problems also involved budget, resource supply, logistics scheduling, bureaucratic structure, and technological aspects. Consultants began to get such requests as: (from the XO of a Spruance-class destroyer), "What I really need is some way of automating the paperwork in the ship's office; can you help implement a mini-computer word-processing system for the ship?" or (from a hospital supply corpsman), "Can you help me design a new inventory control system? I know about economic order points, queuing theory and the like but not really how to use these methods." Requests of this type clearly require that internal consultants have broader diagnostic frameworks and considerable management science expertise, and begin to shift their orientation from a "process" to an "expert" orientation. In short, where before they were OD consultants, these change agents are now being asked to become management consultants.

The concept of client system maturity suggests that change agents must be sensitive to the stage their clients are in with respect to knowledge and adoption of OD concepts and methods in order to choose an appropriate role and intervention technique.

Organizational Uncertainty Variables

These variables include any social or institutional factor either inside or outside the organization that reduces the predictability of activities within the organization. Giblin (1976) and Sebring (1977) refer to the unpredictable nature of budgets in public organizations. The equivalent in the private sector are changes in technology or market situation (Lawrence & Lorsch, 1967, 1969). Frank & Hackman (1975) note, for example, that a job enrichment intervention failed because a change in the market situation led to the dropping of implementation plans from the top management's list of priorities. Personnel turnover is another major source of unpredictability. Warwick (1973) describes how the replacement of one senior State Department official undermined an extensive reorganization effort being undertaken with the help of external change agents. Siegfried (1975) notes that in the Army, even though

turnover is planned, the nature of a target group could change entirely over the course of a yearlong change effort.

Public bureaucracies are also subject to the actions of autonomous political groups (Warwick, 1973; Sebring & Duffee 1977). Giblin's (1976) analysis of a change effort in a large public agency in terms of organization system characteristics provides a useful summary example of this approach. Where most reported organization development interventions have taken place in private business settings (with the result that OD theorists tend to describe all organizations as equivalent), Giblin distinguishes between the characteristics of public and private organizations and describes the implications of these differences for clients and change agents.

Giblin suggests five characteristics which distinguish public from other types or organizations:

1. Organization variation in components and goals. The public sector involves a greater variety of individuals and groups with different and often initially exclusive sets of interests, reward structures, and values. Private organizations are more likely to have agreed upon goals.

2. Long-range planning. The uncertainties and potential for wide fluctuations in annual budgets make long-range planning in public organizations a very tenuous practice; private organizations have more control over their resources.

3. The civil service system. The civil service compromises public administrators' responsibility by limiting their authority to hire the persons at all but the very highest levels, to discharge staff for poor performance; and perhaps more seriously, to reward or advance staff for outstanding performance.

4. Crisis atmosphere. Many government organizations face external attacks from frustrated clients.

5. Organizational "style" and effectiveness. The static style, low propensity for program change, and general ineffectiveness of most public organizations render them very poor candidates for the realization of successful OD efforts. To a considerable degree, this "style" is a function of patterns of administrative regulations which are usually spelled out in minute detail in legislation.

Giblin uses these contextual factors to develop three basic guidelines for the change agent attempting to intervene in a public bureaucracy:

1. The low degree of organizational effectiveness in public organizations necessitates that initial goals set for an OD effort be both modest and operationally oriented.

2. Where a fundamental change in organization climate is not feasible in the short run, the OD effort may initially use existing bureaucratic structures, rules, and accepted customs for achieving the desired (short-run) changes.

3. Given the complex and generally unfavorable environments for change in public organizations, an OD effort should concentrate on the local operating level, and take steps to assure that its influence penetrates the higher levels of the organization.

Giblin's analysis of the implications of these factors for change agent practice in public organizations is useful in developing a more complete typology for intervention research in the Army.

Giblin relates each contextual variable to its impact on a change effort. Thus, high organization variation increases the complexities of the change agent's task and increases the likelihood of resistance and conflict. The inability to undertake long-range planning means that any intervention must be short since lengthy interventions could be terminated halfway through with adverse consequences for any subsequent change efforts. An entrenched civil service system suggests that the change agent will have few organizational levers with which to increase commitment or reduce resistance to changes. The crisis atmosphere may both generate unrealistic demands of the change agent, and subject him to fluctuations in organizational support as his client's attention focuses on the current crisis.

It should be observed, however, that Giblin's guidelines for change agent practice do not necessarily follow from his list of distinguishing characteristics, nor is the list of guidelines exhaustive. For example, far from working from the bottom up, the characteristics for bureaucracies might lead the change agent to focus on changing structural aspects of the organization by working with top management.

Finally, Giblin's characteristics do not really distinguish between public and private organizations; they represent a set of characteristics on which all organizations can be arrayed. Thus a business concern can also be readily typified as having a large amount of organizational variation, an inability to make long-range plans, a highly restrictive personnel system, a tendency to crisis manage, an organizaional style high on formalization, and a relatively low level of effectiveness.

Client Problems

The literature on client problems can be summarized in three general categories: the problem locus, the type of problem, and the pressure (urgency or crisis) associated with the problem.

Problem Locus

Client problems can be "located" in terms of organizational component, function, size, and heirarchical position of client groups manifesting a problem.

Locus by organizational component identifies problems in terms of the elements described in Figure 15 (p. 64): Is the problem with organizational structure, management, job design/ technology, subordinates, work group process or climate, relations with some aspect of the external environment, or with performance or satisfaction outcomes? Locus of the problem by component has clear implications for the change strategy adopted by a consultant. If the problem is management, the prescription may be management training programs. If the problem is job design, a job enlargement or enrichment program can be considered. If the problem is with subordinates, appropriate solutions may be found in the personnel processes of recruitment, selection, training, placement, rewards and sanctions or termination. If the problem is with work group process, process consultation, survey-guided development, or communication skills training may be proposed.

Locus of problem by organizational function identifies problems by marketing, production, research and development, finance, management personnel, or other key organizational operations. This is the most common approach taken by corporate strategy and planning consultants (cf. Drucker, 1973) and discussed in the integration/conflict resolution studies of Lawrence & Lorsch (1967, 1969).

Locus of problems by size and hierarchical position of client group identifies problems by the number and relationship of persons or groups involved. Five possible client problem locations are identified by most authors, in order of increasing size: individual (intrapersonal), interpersonal, intragroup, intergroup, and system. Although these groups are given different names (e.g., French & Bell, 1973, use "dyad and triad" for interpersonal locus), this framework is essentially the same across references. This simple typology provides some prescriptive implications for change agents. For example, as one moves from the intrapersonal to the system level, the size of the change target increases, resources needed for change increases, and optimum depth of the intervention decreases (Harrison, 1970). These generalizations have additional significance for the type

of change method and change agent that is chosen (e.g., systems analysis and analysts for systems problems, psychoanalysis and analysts for intrapsychic problems). Prescription from problem locus alone may, however, be simplistic and misleading because level categories are not mutually exclusive. For example, if a problem is defined as intrapersonal, the client and the change agent may ignore the impact of system, group, and interpersonal factors on the problem. Similarly, if a problem is defined at the systems level, the client and the change agent may ignore the impact of certain interpersonal or intrapersonal issues. Most problems can be located at mulitiple levels, and the level may change in the course of the change effort. Once again, there is a dynamic aspect to change efforts which must be kept in mind.

A second way of classifying the location of a problem is in terms of its position in the organizational hierarchy. Dunn & Swierczek (1977) describe one approach but the categories overlap and can be more parsimoniously summarized. The location in a hierarchy can be specified along three dimensions: status level, function, and number of levels involved. Using a simple breakdown for each category results in the categories shown below.

Status Level	Top Management
	Middle Management
	Lower Management
	Non-management
Function	Line
	Staff
Number of Levels	One, Two, etc.

Thus a problem may involve two levels of top management on the staff side of the organization or may involve three levels of nonmanagement line personnel.

This scheme also has potential implications for the change process. For example, a problem located in a staff function may allow for a more collaborative change method than would the same problem in a line function. Similarly, the more levels at which a problem is located, the more resources the change agent needs and the shallower will be the intervention, other things being equal.

In terms of the typology of problems, one may also hypothesize that different problems may be more frequent in some areas or they may take on a different form. For example, goal problems may be more frequent at top management levels while climate problems may be more frequent at nonmanagement levels.

Type of Problem

Table 11 summarizes the lists of problems or focal issues generated by five authors in terms of five categories: task, goal, interdependence, power, and climate problems.

Task Problems

These stem from how a system's work is organized and carried out. This category includes job design and the technological and administrative aspects of organizing and carrying out tasks. Structural components such as decision-making are included if they result primarily from the way a task is designed. Examples of this type of problem include inefficient job scheduling, ambiguous roles, and inadequate technical training.

Goal Problems

These stem from either (1) failure to state clear goals, purposes or objectives, or (2) failure to meet established goals. The labels in this category, as shown in Table 11, stress the absence of goals, rather than poor performance. The inclusion of problems due to failure to meet goals, etc., permits greater coverage, in that specific problems or symptoms (e.g., short falls in projected profits, productivity or re-enlistments) are readily assigned to this category.

Interdependence Problems

These stem from the necessity of engaging in joint agreements or joint action. Included here are conflict resolution problems arising from the allocation of scarce resources, the determining of wage bargains, and the distribution of work-loads or responsibility. Behavioral manifestations range from strikes and go-slows to a continuing failure to pay attention to the needs of certain groups.

Power Problems

These stem from the distribution and the utilization of power. Included here are problems such as the misuse or abuse of authority, the failure to follow orders, or the excessive use of or reliance on rules and regulations.

TABLE 11

Client Problems

Beckhard	Blake & Mouton	Bowers	French & Bell	Schmuck & Miles	Problem Categories
structure/role	(norms/standards)	structure		institutional characteristics technical/ structural arrangements role definition	task problems
(communication) planning		(communication) work facilitation		decision making	
management strategy (motivation)	goals & objectives	goal emphasis	goal setting	developing objectives	goal problems
(communication) mergers intergroup collaboration		(communication) interaction facilitation	conflict resolution interface relations	conflict resolution collaboration	interdependence problems
	power/authority		superior/subordinate relations	leadership authority	power problems
organizational climate (motivation)	morale/cohesion	lack of support		culture/climate regenerative interaction	climate problems
cultural norms	(norms/standards)	norm		values guiding interaction	

Parentheses ( ) indicate that the problem can be classified in two categories.

Climate Problems

These stem from the general pattern of behavior attitudes and feelings that exist in an organization. This is a catchall category and covers such diverse behaviors as rate setting, an unwillingness to do more than the minimum, and a lack of cooperation.

The following observations need to be made about this typology. First, the problem categories identified in the literature in no way exhaust the reasons that clients may have for initiating organizational interventions. Some of the non-problem-specific related client reasons encountered by the authors are listed in Table 12. The senior author estimates that fully 80 percent of the time he has been engaged, the client has not had an identifiable problem or admitting complaint in the clinical sense (although problems often surface in the course of the intervention). This suggests that clients can have growth and social motives as well as deficiency or "problem" (or external coercion) motives for initiating organizational intervention activities.

Second, the five problem categories are not mutually exclusive. They represent but one way of summarizing a broad range of issues that confront change agents and their clients. At this stage it should not be assumed that a particular category is necessarily aligned with a specific set of change strategies. Thus, for example, interdependence problems may be resolved as effectively by structural changes as they would be by team-building efforts. Combinations of these problem categories are also a strong possibility.

Third, the initial definition or articulation of a problem depends upon the perspective taken. Three potentially different perspectives need to be considered: the change agent's, the change sponsor's, and the change target's (Dunn & Swierczek, 1977). Thus, a given problem could be assigned to at least three different problem categories.

A fourth point concerns the distinction between a problem's symptoms and its cause. The five categories outlined above are described more in terms of underlying causes than symptoms, however, they can also serve to organize symptoms. It should be noted that a problem's symptoms may well fall into a different category from the underlying cause. For example, the causes of a low profit rate (a goal problem symptom) may result from problems in any or all of the five categories. Finally, the change agent may be asked to focus upon the symptoms rather than the underlying causes of problems, complicating the classification problem.

TABLE 12

Non-problem-specific Client Reasons for Initiating Organizational Interventions

1. Involvement is mandatory: "The boss said everyone has to go through one of these things; I've got to get my ticket punched; every GS-14 has to have five days of training each year, and your program happened to be scheduled during a week when I had nothing to do."

2. Social pressure for involvement: "It's clear OE is the 'hot' thing in the Army right now--if other COs are doing it, I figured I'd better do it too."

3. Gesture of support: "I want to give the boys a chance to get together in some nice place away from the office--you know, just to show them the boss is listening, that I care."

4. Curiosity/experimentation: "I heard this stuff was around, so I thought I'd sign up to see what it's all about."

5. Routine checkup: "I don't know that my group's got any problems, but I'd sort of like to give us a 'routine physical', just to see how we are doing."

6. Break routine: "My group's ready for a change--I'd like to shake things up a bit and see what falls out."

7. Growth: "People can always use new inputs--I'd like to get the latest research ideas and data for my own professional/personal growth and enrichment."

8. Surface issues: "I know we have problems--but I don't know what--I'd like to find out what they are."

9. Specific job training: "I need to know something about motivation and job design to move into the personnel department."

10. Prestigious outsider: "I heard Dr. X was going to be in town, so I thought it would give us a little visibility if he came in and spent a day with us."

11. Increase general communication or intervention: "The team is spread all over the country. I'd like you (the change agent) to get us together so we get a chance to share ideas."

Pressure Associated with the Problem

The pressure associated with the problem is important in two major respects. First, the degree of pressure may determine the type of intervention or change method selected, particularly if the pressure is in the form of urgency (Dunn & Swierczek, 1977). The need to resolve an urgent problem may generate either a huge flow of resources or a willingness to focus on the symptoms rather than on the underlying causes.

Second, the pressure felt by the clients and change agents may influence the behaviors that are manifested in the change process. Functional pressure, for example, should increase the amount of top management support, while dysfunctional pressure may increase the number of problems that have to be resolved.

Pressure may also vary over the course of the change effort. Hanson (1969), for example, argues that the change agent, through his diagnosis or behavior, may increase or decrease the pressure experienced by the clients around a given problem.

Greiner (1967), in his review of 18 studies of organization change efforts, noted that "strong pressures in areas of top management responsibility are likely to create the greatest concern for organization change" and such concern increases the likelihood of success. Greiner goes on to argue that these pressures may originate from inside or outside the company. Carter (1976), in a study of five change efforts, makes this assertion even more strongly: "Successful change was always preceded by recognition of organizational crisis, which brought to the fore an awareness and acceptance of inappropriate leadership. In unsuccessful cases, crisis either did not exist, or was not acknowledged."

This stronger conclusion is questionable for several reasons. First, as noted, interventions may be motivated by growth as well as deficit or crisis concerns. Second, considerable time is required to implement many change efforts (Friedlander & Brown, 1974) and their effects often involve evolutionary rather than revolutionary change (Bennis, 1969; Likert, 1964). Third, it fails to consider the difficulties experienced by change agents when operating in such an atmosphere (see, for example, Sebring & Duffee, 1977; Lewicki & Alderfer, 1973; McMillan & Langmeyer, 1975). Finally, it is clear that organizational crises often lead to the termination of change efforts (Frank & Hackman, 1975) or to their temporary suspension (Luke et al., 1973). Insofar as pressure increases commitment to a change effort (Hain, 1972; Frohman, 1970), it has a positive effect on the change process. What is needed, therefore, is a clearer idea of the amount and nature of the pressure generated by different types of problems.

Summary

A number of taxonomies provide lists of focal issues or problems but relatively few research studies discuss the problem that stimulated the change effort. This is paradoxical since most change models parallel a medical model: The patient (client) identifies troubling symptoms (problems), seeks professional advice (change agent), and undergoes a course of treatment (change method). This model assumes that the available technology is problem-oriented. This, however, tends not to be the case. Few efforts have been made to theoretically or empirically specify which methods are best for which problems. Even Bowers & Hausser (1977), in attempting to identify which methods work best given a particular organizational climate, failed to specify the problems that caused poor organization or work-group climate.

This vagueness in problem definition stems from the espoused system orientation of the majority of theorists (Argyris, 1972) and from the heavy emphasis on interpersonal processes. The former assumes that if you change procedure X or policy Y, the whole system will ultimately respond. This is the rationale for the claimed importance of such change methods as MBO, incentive schemes, and Bayesian decision-making methods. This approach is even more pronounced among system theorists (McGregor, 1967; Argyris, 1974). These theorists are not necessarily wrong concerning the long term effects of their proposed changes, but their positions seldom accord with actual change efforts or with the demands of clients. Few organizations, for example, have invested in the long-term change efforts implicit in the systems approach.

The second reason for the vagueness of problem difinitions is that many change efforts fail to discriminate between different interpersonal processes. Possible refinements (e.g., communications, superior-subordinates relationships, and conflict resolution), while included at the diagnostic stage, are seldom the focal points of attention in the subsequent action and implementation stages. By comparison, structural approaches lead to clearer problem statements (e.g., the redefinition of reporting relations and role classification).

Client Recipients

The literature on the specific client recipients of intervention assistance is divided into discussions of characteristics of the change sponsor (the individual--or rarely group--in the client organization which initiates the change effort and is primarily responsible for the change agent's activities) and the change target (the individuals or groups who participate in intervention activities).

The Change Sponsor

The critical change sponsor function is the provision of support for the change effort. This is the single most widely supported research finding on organizational change (Alschuler, 1974; Clark, A., 1972; Clark, P., 1975; Dyer et al., 1970; Friedlander, 1968; Jonason, 1976; Kegan, 1971; Lee, 1977; Morse, 1968; Revans, 1972; Schmuckler, 1971; Topliss, 1974; Zeira, 1973). Support can be manifested in three forms: the provision of adequate resources, the legitimizing of the change effort and the resulting changes, and involvement in the change process (Schmuckler, 1971).

The majority of change efforts are expensive. Therefore, it is critical that the change sponsor be willing and able to commit adequate resources to the change effort. Resources refer here to both direct payments in time and money and a readiness to risk any losses arising from the change strategy. With respect to this latter point, Luke et al. (1973) describe a structural change effort that initially had negative impacts on the bottom line during the learning period, but ultimately proved effective principally because the change sponsors allowed the program to continue. The ability to allocate resources normally depends upon the hierarchical position of the change sponsor (Baldridge & Burnham, 1975). The willingness to make such decisions stems from the motives of the change sponsors (Strauss, 1976), their beliefs (Dunn, 1978), and certain personality characteristics such as being nonauthoritarian (Davey, 1974) and flexible (Zand, 1974).

Change sponsor support is also manifested in the legitimacy given to the change effort. Bennis & Schein (1969) relate one change effort in which the change sponsor did not have the power to legitimize the effort. His superiors became suspicious about what was occurring in a series of T-groups, and ultimately terminated the change effort. The higher the change sponsor is in the organizational hierarchy, the less likely it is that this situation will occur. Also, the better the marketing skills of the change sponsor both with his superiors and with the change targets the greater will be his ability to ensure commitment of the top to the resulting changes and the involvement of the change targets in the change process. Topliss (1974), for example, describes a charismatic head nurse who persuaded a demoralized professional staff that a change effort was worth undertaking.

Perhaps the most complete support possible from a change sponsor is the willingness to become personally involved in the change effort. This involvement adds legitimacy to the change effort. More importantly, particularly where the change effort is one of tackling system-wide problems, involvement demonstrates a readiness to look at all manifestations of the problems and to

avoid charges of manipulation (Lacapra, 1973; Strauss, 1976). Golembiewski et al. (1972) also note that using top management as leaders of different parts of a change program increased the involvement of the main change targets.

The change sponsor plays an important role during the entry phase of the change process, and at any point where the client-change agent contract is being amended. Franklin (1976) found, for example, that the care taken in selecting the change agent was predictive of the effectiveness of the change effort. Moreover, as part of the change process, the change sponsor needs to demonstrate many of the same skills that the change agent requires. Sebring & Duffee's case study (1977) illustrates the consequences of having change sponsors who have minimal interpersonal skills. Argyris (1970) identifies a number of problems that the over-zealous change sponsor can give the change agent, particularly the imposition of the change agent on unwilling or unsuspecting change targets.

The Change Target

Four change target attributes have received emphasis in literature: values, power, skills, and needs.

Change target values are important in predicting the acceptability of different types of change methods. A change target group that does not value power-sharing, open communications, interpersonal trust, or sensitivity can be expected to resist collaborative change strategies, at least initially. In fact, Friedlander (1970) shows that T-groups are most effective when trust already exists in the work group. Dunn (1978) gives a list of twelve change target values but makes no prediction as to their impact on the change process.

Change target power is important in two respects. First, the more power a target group has access to, the greater is their ability to resist change (Lee, 1977). This power may stem from their hierarchical position (Jonason, 1971) or from informal factors. With respect to the latter, Roche & MacKinnon (1970) found an all-or-none pattern of success with work-groups in a job enrichment program, suggesting that resistance may stem from the attitudes of certain informal leaders.

The second reason for considering the power of a target group is that the target group may want to adopt certain changes or to engage in certain activities others may find disturbing. Luke et al. (1973) and Jonason (1971) both describe the efforts of peripherally involved client personnel to prevent certain changes. Moreover, the greater the power of the target group, the more able they will be to resist or reshape existing organizational

policies (Toronto, 1975). Thus, an elite, high-performing military unit may be able to do what a more average unit could not risk.

Just as a change process makes demands of the skills of the change agent, so too does it make demands of the skills of the other participants in the change effort. Friedlander (1970) and Hellreigel & Slocum (1976) note that many change methods demand a certain cognitive sophistication on the part of the change target. Other commentators have stressed the need to design change processes in keeping with the dominant skills and level of skills of the target group. For example, Bragg & Andrews (1973) report that a change effort with lower level workers was successful because the focus was on identifying specific technical changes. At a different level, Golembiewski & Yeager (1977) point out that survey results have to be interpreted in the light of the performance standing of the respondents. Boyatzis & Spencer (1976), Kolb (1971), and Munger, Spencer & Thomson (1976) argue that learning inputs must be keyed to the learner's preferred learning styles; this is a basic principle of adult education approaches (Knowles, 1970; Lynton & Pareek, 1967) and will be emphasized below under the heading Intervention Process Variables. The list of change skills summarized earlier could also be used in evaluating the skills possessed by the target group.

Change target needs also have to be considered. Armenakis et al. (1977) note that the level of need strengths acted as a moderating variable with respect to the correlation between job characteristics and worker satisfaction. The authors observe that, on the basis of this finding, job enlargement or job redesign will be more effective where the target groups have high growth need levels. Similar conclusions can be derived from MacMillan & Langmeyer's (1975) report of a change effort in the New York City Public Schools, where the immediate needs of the target group of teachers was a reduction in the crisis atmosphere (or in Maslow's terms, a predominance of physical needs) rather than an increase in participative decision-making. Finally, Hayes & Williams (1971) suggest that separate change programs need to be designed for older workers. Both problems may need addressing, but change agents have to consider the needs of the target group in designing the change strategy.

The effectiveness of change efforts depends upon the quality of the interactions between the change agent and two groups of individuals: change sponsors and change targets. While client system characteristics influence the quality of the interactions at a general level, personal factors have a more direct impact on the change process. Variations in the attributes of both the change sponsors and targets influence the way the change process develops and the choice of an appropriate change method and

change agent. Again, it should be stressed that little systematic research exists that relates the attributes of change sponsors and targets to the change process, the change methods, the change agents, or the outcomes.

Summary of Client Variables

Client variables have been discussed in terms of client system characteristics, client problem locus and nature, and client recipient characteristics. This represents but one possible way of organizing the organizational characteristics identified in theoretical and empirical studies of change efforts. The variables discussed are not exhaustive: The major characteristics have generated a considerable literature of their own. For example, a recent review of the literature on organizational climate variables found that this concept included more than 20 distinct organizational aspects (Spencer, Klemp, & Cullen, 1977). There is also considerable redundancy in the list of organizational characteristics (e.g., organizational components can be treated as antecedent system characteristics and as problem loci) due to intercorrelation of characteristics.

Payne & Pugh (1977) point out that objective and subjective measures of organizational characteristics yield different results in terms of intercorrelations, indicating that an unresolved measurement problem may exist. Although Payne & Pugh argue that objective measures produce more stable relationships between variables, no clear indication exists as to the superiority of any single measurement approach, nor are the meanings of the discrepancies between approaches explained.

The implications of organizational characteristics for explicit change prescriptions are limited by the paucity of empirical studies. For example, in responding to a large amount of organizational variation, it is unclear whether change sponsors should insist that the change agent have well-developed conflict resolution skills or limit the problem so as to minimize any interdependence between possibly antagonistic groups. Such detailed action steps depend less on the general organizational characteristics than on the change agent's diagnosis and the change sponsor's attitude.

CHAPTER IV. INTERVENTION METHOD AND PROCESS VARIABLES

Two distinct approaches to classifying intervention variables are discernible in the literature: method and process.

Method taxonomies describe interventions in terms of a specific theoretical approach or technique (e.g., process consultation or survey-guided development). Argyris (1976) observes that this is an Aristotelian approach in which "explanation resides 'in' the properties of the phenomena under study and not in the relationships among the phenomena," a dynamic process or Galilean approach (p. 153). In other words, method labels describe <u>what</u> a change agent calls what he does with a client, but not <u>how</u> he and the client interact in the intervention process.

Process taxonomies alternatively describe interventions in terms of what change agents and clients actally do at various points in time over the course of an intervention (e.g., "establish a psychological contract" or "make contacts to gain top management support").

Findings from the literature on counseling and small group dynamics suggest that intervention processes are more important than the names given disparate techniques. For example, in counseling and psychotherapy, whether a therapist's theoretical orientation is psychoanalytic, Jungian, or Rogerian nondirective makes no difference in client outcomes. Factors significantly related to cure rates are such process variables as therapist expressions of accurate empathy, nonpossessive warmth, genuineness, and initiation (diagnostic and prescriptive skill) which appear to underlie all effective therapeutic interactions (Carkhuff, 1971, p. 21; Truax & Carkhuff, 1967).

This finding holds true for group interventions as well. A group leader's theoretical orientation as a Gestalt, transactional analysis, or T-group practitioner is unassociated with participant and group outcomes. Rather, four leader behavior process dimensions--caring, emotional stimulation, meaning attribution and executive function (which can vary for leaders using any methods)--account for differences in group outcomes (Lieberman, Yalom & Miles, 1975, p. 241).

In the field of organization development, some method labels imply that certain processes take place. For example, use of a survey-guided development intervention implies that data is

gathered, analyzed, and fed back to a client, who then problem-solves, sets goals, and acts on the basis of this feedback. In fact, however, the label says little about how either the change agent or his client actually behave. For example, feedback may be simply handed to the client without explanation, or the problem-solving meeting may not take place. It follows that any taxonomy of OD interventions must examine whether or not certain processes take place as well as what the method is called. This report organizes intervention alternatives by method and process.

Intervention Methods

Most studies reviewed referenced intervention methods by the client unit of change to which they were applied. Table 13 summarizes the methods identified by each author in ten groups suggested by Beer (1976).

1. Individual consultation (counseling/coaching) interventions usually involve a change agent in a one-on-one helping interaction with a single client. Change methods can range from individual psycho-therapy, with the objective of bringing about intrapsychic changes, to provision of expert information and advice.

2. Unstructured group training interventions involve individuals in a group that lacks any task purpose or structure except that of understanding individual or group dynamics. T-groups, sensitivity training, and uninstrumented racial awareness workshops are examples of this type of intervention. Team-building is included in this category (as well as in subsequent categories) because unstructured groups are sometimes used with work teams for team-building purposes.

3. Structured group training interventions include management and group development courses that are structured to change participant attitudes, convey some specific theory or body of knowledge, or develop specific skills. Structured educational experiences usually contain readings, lectures, and exercises, and may be "instrumented"--include tests or surveys used to give participants feedback on their attitudes, knowledge, or skills level. Examples include communications, problem-solving, Grid Phase 1, transactional analysis, MBO, supervisory skills, and equal opportunity training courses or workshops. Team-building is also included in this category because when used with work teams, the process of sharing an educational experience by itself has a team-building effect. Work-group members have a shared knowledge base, language, memories of work together (often in a

TABLE 13

A Taxonomy of Organizational Intervention Methods

Category 1. Individual Counseling/Advising

Subcategories: (1) Intrapsychic counseling/psychotherapy
(2) Behavior/skill coaching
(3) Career and life planning
(4) Expert: information, prescriptive advice

Reference	Intervention Method Label
Burke (1974)	• Counseling
Hellreigel & Slocum (1976)	• Behavior modification
French & Bell (1973)	• Coaching and counseling • Career and life planning
Schein (1961, 1969)	• Coaching and counseling

Category 2. Unstructured Group Training

Reference	Intervention Method Label
Dunn & Swierczek (1977)	• Encounter groups (16) • Laboratory training (20) • Sensitivity training (26) • Team-building (31) • T-groups (32)
Burke (1974)	• Training programs
Pate et al. (1977)	• Laboratory training • Sensitivity training discussion groups
Bowers (1973)	• T-group
Hellreigel & Slocum (1976)	• Sensitivity training
Barnes (1969), Greiner (1965)	• T-group
McGill (1977)	• Laboratory training
French & Bell (1973)	• T-group (Sensitivity training)

Table 13 (continued)

Category 3. Structured Group Training

Subcategories: (1) Management development
(2) Group development
(a) awareness/attitude change
(b) instrumented
(c) theory, principles
(d) management skills

Reference	Intervention Method Label
Dunn & Swierczek (1977)	• Leadership/style change (07) • Transactional analysis (13) • Managerial grid (22) • Power training (25) • Team-building (31) • EEO-AA workshops (39)
Burke (1974)	• Training programs; courses, conferences
Pate et al. (1977)	• Training • Grid team skills training • Intergroup team-building • Training in problem-solving and verbal skills • Supervisory skills workshop
Hellreigel & Slocum (1976)	• Transactional analysis • Grid training • Behavior modification
McGill (1977)	• "Packaged" approaches • Transactional analysis
French & Bell (1973)	• Career and life planning • Education and training to increase skills • Grid Phase 1
Srivasta et al. (1975)	• Participative management - training - support

Table 13 (continued)

Category 4. Process Consultation: Task/interpersonal Team-building

Subcategories: (1) Interview-observation-feedback
(2) Group sensing - action planning
(3) Role clarification
(4) Conflict resolution (intra- or intergroup)
(5) "Processing" meetings

Reference	Intervention Method Label
Dunn & Swierczek (1977)	• Confrontation meetings (15) • Group feedback (17) • Group problem-solving (18) • Process consultation (19) • Task group therapy (30) • Team-building (31) • Feedback communications systems (40)
Burke (1974)	• Team-building • Intergroup confrontations
Pate et al. (1977)	• Team-building • Action planning • Group consultation • Role training • Goal setting • Process observation • Reinforcement sessions • Interpersonal process consultation • Participative decision
Bowers (1973)	• Interpersonal process consultation • Task process consultation
Hellreigel & Slocum (1976)	• Role relations
Barnes (1969), Greiner (1965)	• Group decisions • Group problem-solving
McGill (1977)	• Process consultation • Team-building

Table 13 (continued)

French & Bell (1973)	• Role analysis • Process consultation • Team-building (task and process • Third party peacemaking • Grid phases 2, 3 • Intergroup activities • Organizational mirroring • Confrontation meetings
Schein (1969)	• Agenda setting • Feedback
Srivasta et al. (1975)	• Participative management • Interpersonal group process

Category 5. Survey-guided Development

Subcategories: (1) Data handback: data collection - return
(2) Action research (data feedback/action planning): data collection - feedback - action planning
(3) Theory and data: data collection - theory course - feedback - action planning

Reference	Intervention Method Label
Dunn & Swierczek (1977)	• Climate change (12) • Group feedback (17) • Group problem-solving (18) • MAPS: multivariate analysis, participation & structure (23) • Survey feedback (28) • Team-building (31)
Burke (1974)	• Data feedback
Pate et al. (1977)	• Data collection • Data confrontation • Survey feedback
Bowers (1973)	• Data handback • Survey-guided development (theory and data)
Hellreigel & Slocum (1976)	• Survey feedback
Barnes (1969), Greiner (1965)	• Data discussion
McGill (1977)	• Survey feedback
French & Bell (1973)	• Survey feedback
Srivasta et al. (1975)	• Information feedback

Table 13 (continued)

Category 6. Job Redesign

Subcategories: (1) Tasks
(2) Responsibilities
(3) Interaction patterns
(4) Technical/physical environment

Reference	Intervention Method Label
Dunn & Swierczek (1977)	• Job redesign (01) • Job enlargement (02) • Job enrichment (03) • Job rotation (04) • Work simplification (05) • Work measurement (06) • Flextime (09) • Autonomous task groups (14) • Task enrichment (29)
Burke (1974)	• Job enrichment • Social architecture (changes in physical environment)
Pate et al. (1977)	• Job enrichment • Flextime • Plant layout
Hellreigel & Slocum (1976)	• Job enrichment • Autonomous groups
McGill (1977)	• Socio-tech systems
French & Bell (1973)	• Job enrichment
Srivasta et al. (1975)	• Job restructuring - discretion/autonomy - task variety - information & feedback • Socio-tech systems - discretion/autonomy - technical/physical

Table 13 (continued)

Category 7. Personnel Systems

Subcategories: (1) Staffing
(2) Pay and rewards
(3) Hygiene

Reference	Intervention Method Label
Dunn & Swierczek (1977)	• Incentive systems (33) • Profit sharing (34) • Scanlon plan (35) • Productivity bargaining (36) • Positive reinforcement (37) • Nonmaterial incentives (38) • EEO/AA plans (39) • Manpower information systems design (50) • Manpower planning (53)
Pate et al. (1977)	• Wage scale changes
Barnes (1969), Greiner (1965)	• Replacement
Srivasta et al. (1975)	• Pay/rewards

Category 8. MIS/MCS/Financial Control Systems

Reference	Intervention Method Label
Dunn & Swierczek (1977)	• MBO: Management by Objectives (08) • Performance evaluation (11) • MIS design (21) • PPBS: planning-programming-budgeting system • Performance budgeting (45) • Performance auditing (46) • Systems analysis (47) • Operations research (48) • PERT (49) • Manpower information systems design (50) • Cost-benefit analysis (51) • Human resource accounting (52)
Hellreigel & Slocum (1976)	• MBO • Computer systems

Table 13 (continued)

Category 9. Organizational Design

Reference	Intervention Method Label
Dunn & Swierczek (1977)	• Matrix organization design (29) • Reorganization (41) • Consolidation (42) • Decentralization/devolution (43)
Burke (1974)	• Technostructural interventions: change in organizational structure
Pate et al. (1977)	• Organizational restructure
Hellreigel & Slocum (1976)	• Matrix organization • Decentralization
Barnes (1969), Greiner (1965)	• Structural changes
French & Bell (1973)	• Technostructural change
Schein (1969)	• Structural suggestion
Srivasta et al. (1975)	• Organizational change: organizational structure

Category 10. Integrated Approaches

retreat setting outside the usual work milieu), and perhaps of enhanced communication, all potential sources of greater group identity and cohesion.

4. Process consultation methods include any intervention used with small groups or work teams to identify and solve common problems. Task process consultation efforts focus on solving technical problems (e.g., work flows). Interpersonal process consultation sessions focus on "people problems": for example, communication patterns in meetings, clarifying roles and responsibilities, or resolving conflicts among work team members or between two competing teams. Team-building is most clearly included in this category. Involvement of work-group members of varying status in problem-solving activities means that process consultation interventions by their very nature involve participative management in some degree.

5. Survey-guided development (SGD) methods include interventions which collect data about client work-group or organizational functioning and feed data back to work-groups to be used by them in problem-solving. Three SGD designs can be distinguished, in order of increasing effectiveness:

- data handback, in which data are simply collected and returned to the client without change agent participation in problem-solving;
- action research, data feedback, and action planning, in which data are collected and fed back to clients in a problem-solving meeting during which goals are set and action steps are planned to implement changes; and
- concepts training/data feedback/action planning, in which data are collected and fed back in the context of a structured workshop during which participants learn theories of management, the concepts behind the survey, and problem-solving skills, then practice using this learning to set goals and plan actions for improving their work situation.

The last category necessarily involves team-building and participative management where members of a work-group take part in problem-solving sessions with their superiors.

6. Job redesign methods include interventions which alter the tasks, responsibilities, interaction patterns, or the technical and physical environment intrinsic in the work itself--the jobs performed by client personnel. This category includes job enlargement, enrichment, and rotation; work simplification; changes in working conditions; and some structural changes (e.g., the creation of autonomous work teams to increase employee interactions).

7. Personnel systems methods include interventions implemented through traditional personnel functions: (1) recruitment, selection, training, and placement of new employees; (2) termination, reassignment, or retirement of existing personnel; and (3) manipulation of rewards and sanctions such as pay, profit-sharing, incentive bonuses, fringe benefits, and other nonmaterial rewards (e.g., titles). Equal opportunity programs and manpower planning systems are included in this category.

8. Management information and financial control systems methods include the introduction of management by objectives (MBO), performance evaluation, cost-benefit analysis, and other methods of tracking and evaluating employee or work-group performance.

9. Organizational design methods include any structural change in organizational authority and reporting relationships: creation of "matrix" project teams, decentralization, or consolidation of units.

10. Integrated approaches is a final catchall category for interventions which include more than one of the methods described above. It should be observed that many intervention categories overlap, and methods are in no way mutually exclusive. An intervention may begin with a survey-guided development sequence (number 5 above) which stimulates managers to plan for and act to provide management development training (4), job redesign (6), decentralization of responsibility (9), and a management by objectives system (8) with bonus incentives (7). As argued above, the descriptive label(s) given an intervention are less useful than a detailed specification of the processes it involves.

Process Variables

Conceptions of OD intervention process variables can be organized into two groups: phase variables and intervening variables.

Phase variables refer to the steps or stages which can take place during the intervention. These variables can be visualized as points on a time line stretching from the beginning of an intervention to its conclusion (e.g., the entry or diagnosis steps in an OD program).

Intervening variables refer to change agent behaviors or client impacts that occur during a step which increase the probability that the overall objectives of the intervention will be met (e.g., correctly identify client's felt needs during the diagnosis phase).

Phase Variables

Reviews of the principle social and organizational change models (Havelock, 1969; Sashkin, Morris, & Horst, 1973; Havelock & Havelock, 1973) indicate that most models present similar conceptions of the steps by which change takes place over time. Twelve of the more commonly cited models, including the current Army and Navy survey-guided development sequences, are compared in Table 14.

As indicated in this table, most models include the following phases:

- an entry or initial contact phase, in which the consultant and client meet and agree on (contract for) the objectives and tasks to be undertaken in the intervention;
- a research or diagnosis phase, in which data is collected and analyzed to provide some idea of the client's problems or needs;
- a problem-solving phase, in which the client seeks and evaluates potential solutions to identify problems, then plans (and may set goals) for implementation of solutions;
- an action phase, in which the client implements the planned solutions (e.g., conducts training or changes organizational structure); and
- a follow-up or evaluation phase, in which the consultant and client determine the effects of the intervention as compared with the initial objectives, and the consultant either terminates contact with the client or continues in a supportive role.

Models may omit one or two of these phases and can differ in the emphasis placed on change agent as opposed to client behavior. For example, entry or follow-up/evaluation steps are implied but not explicitly included in briefer models and research-diffusion-dissemination models focus on change agent marketing steps where social interaction models stress stages in recipient adoption of change ideas. All models can, however, be seen to share a similar conception of steps in a change process over time.

Intervening Variables

The OD literature is filled with practitioners' observations about why some interventions succeed and others fail. These observations are usually stated as hypothesized intervening predictor variables, in the form of critical factors, conditions, or

TABLE 14

Phase Conceptions of the Organizational Intervention Process

"Action Research" Lewin (1951)	"Problem Solving/Linkage Process" Havelock (1969)	"Research-Development-Dissemination" Havelock (1969) Clark & Guba (1965)	Social Interaction "Diffusion of Innovations" Rogers (1962)
• Research - data gathering - analysis - diagnosis	• Identify client "felt needs"	• Basic research	• Identify (a) "gate keepers" and "opinion leaders" (b) contact networks
• Action - unfreezing - changing - refreezing	• Problem diagnosis • Search for alternatives • Evaluation of alternatives	• Applied Research - product - consumer needs • Development and testing of prototypes	• Awareness • Interest • Trial
• Research - evaluation	• Solution • Application	• Mass production and packaging • Planned mass dissemination activities ("marketing")	• Adoption • Maintenance (Reinforcement)

(Table 14, continued)

"Action Planning" Lippit, Watson, Wesley (1958)	"Intervention Theory and Method" Argyris (1970)	"Consulting Process" Lippit & Lippit (1975)	"Survey-guided Development" Franklin (1976)
• Establish need for change	• Generate problem relevant data	• Phase I: contact, entry, relationship	• Initial contact
• Establish client-consultant relationship	• Use data to identify solution alternatives and make decisions	• Phase II: contract formulation	• Entry and commitment
• Data collection and diagnosis	• communicate shared commitment to these decisions	• Phase III: planning for problem solving	• Data gathering
• Action planning		• Phase IV: Action taking and continuity	• Problem Solving/Action Planning - survey concepts training - survey feedback
• Action implementation			
• Generalization and stabilization of change			• Exit/termination procedure
• Termination			

(Table 14, continued)

Navy HRM Cycle	Army Organizational Survey Feedback Manual	"Training for Development" Lynton & Pareek (1973)	"OD Consulting Approach" "Kolb & Fronman (1970)
• Phase I: Entry - initial contact with clients - "scouting" data collection - planning by consultant team - CO brief • Phase II: - survey concepts training • Phase III: - survey data collection • Phase IV: - diagnosis - survey feedback • Phase V: - action planning • Phase VI: - CMD implementation	• Administer survey • Survey Feedback • Diagnosis • Planning • Action	• Preintervention - expectations: felt needs - motivation of participants • Intervention - training - experience - feedback - reinforcement - internalization • Post-intervention - organization support - evaluation	Scouting Entry - psychological contract Diagnosis Planning Action Evaluation Termination

behaviors which can be present or absent at key phases in the intervention process. Examples are "if change agents get top management support, then the intervention is more likely to succeed" or "if a client's record goals are set in measurable terms, with due dates and action steps, these goals are more likely to be achieved." Most notions about intervening variables lack empirical support; some represent a consensus of change agent polls, and a few are backed by experimental studies.

In the following discussion, intervening variables found in the literature review are organized by phase. The phase conception used is a combination of the Lynton & Pareek and Kolb-Frohman models, which succinctly encompasses most steps identified by the other phase models. Table 15 summarizes intervening variables by phase and reference. Intervening variables are stated as hypotheses.

Pre-intervention Phases

There are eight pre-intervention phases, as follows.

1. Scouting. In this phase, change agents identify and "market" potential clients, work together to build an effective team, and collect preliminary data about potential or identified client personnel and problems. The intervening variables which may predict success during this stage are:

1.1 Identification of potential early adopters: Change agents should focus marketing efforts on clients with a reputation for innovation or known to be interested in or favorably disposed toward OD approaches. As early adopters also tend to be "opinion leaders," clients most likely to experiment with an intervention are also those most likely to influence other potential clients to do so as well. There is one caveat to this prescription: If the innovator group is perceived by others to be deviant or low in status, change agents should avoid identification with it (Rogers, 1962; Havelock, 1969).

1.2 Active marketing of services through as many channels as possible to stimulate potential clients' awareness, interest, and trial of OD approaches: For example, innovative OESOs have circulated attractive brochures describing available services, put notices on bulletin boards, arranged to speak at formal and informal meetings, and left interesting articles on OD approaches under ash trays at the officers' club,

TABLE 15

Intervening Variables at Each Phase in an Organizational Intervention Process

PHASE	INTERVENING VARIABLE/PHASE	REFERENCES
1. Scouting	1.1. Identify potential "early adopters"	Rogers (1962)
a. Preliminary data collection (market research) b. CA (team) planning c. Marketing	1.2. Active marketing of services to gain awareness, interest (through a variety of messages via different channels used in combination, in sequence, in repetition)	Rogers (1962)
	1.3. Collect advance data on client "felt needs," problems personnel, structure	Navy HRM Cycle (Munger, Spencer & Thomson, 1976) Kolb & Frohman (1970)
	1.4. Build change agent team consensus, drill, security	Bennis & Schein (1969) Beer (1976)
2. Entry	2.1. Gain top management support	Buchanan (1971), Bennis & Schein (1969), Greiner (1967), Bennis (1965), Srivasta et al. (1975), Beckhard (1969)
a. Initial contact with client b. Assess client readiness c. Contracting	2.2. Build person-to-person contact networks, informal "opinion leader" (reference group) support	Rogers (1962) Nadler (1977)
	Identify:	
	(a) Who proponon (innovator)	Yin et al. (1977)
	(b) Who initiaten (implementor)	Havelock (1969, 1973) - user should initiate change
	(c) Who is identified with	Schmuck & Runkel (1972)
	(i) Who supports/reasons	
	(ii) Who is involved in/ reasons	
	(iii) Who opponen/reasons	
	(d) Impact on adjacent subsystems	Bennis & Schein (1969)
	2.3. Change agents, intervention congruent with client norms, values, culture	Bennis & Schein (1969) Bennis (1965) Havelock & Havelock (1973)
	2.4. Agree on clear objectives/ expectations for intervention	Buchanan (1971), Beer (1976), Lynton & Pareek (1967), Nadler (1977), Havelock (1969) - objectives stated in behavioral term Schmuck & Runkel (1972) - task/mission oriented
	2.5. Contract for intervention resources	McGill (1977), Clark (1975)
	(a) Structure	
	(b) Power (role) relations - CA responsible	Barnes (1969)
	(c) Pace (time) - Client contact responsible	
	(d) Price (financial resources)	
	(e) Professional relations	
	(f) Performance criteria	
d. Selection and motivation of appropriate participants	2.6. Involve participants on a voluntary self-selection basis	Knowles (1970) Bennis & Schein (1969) Lynton & Pareek (1967)
	2.7. Present intervention in relevent "felt need" terms	Havelock (1969), Lippit, Watson, Wesley (1958), Beer (1976), Bennis (1965)
	2.8. Express positive expectations for intervention success	McClelland (1975), Havelock & Havelock (1973)
	(a) Change agent	Wittreich (1966)
	(b) Client sponsor	- "minimizing uncertainty," reassurance
3. Diagnosis	3.1. Clients participate in data collection	Coch & French (1948) Cartwright (1951) Buchanan (1971)
a. Plan to collect data b. Data collection - Observation - Interviews - Survey - Other	(a) Motivated to provide accurate data	
	(b) Appropriate levels/sample involved (more levels better)	Greiner (1967) Nadler (1977)
	(c) Confidentiality guaranteed	- explain to respondents: goal, client (who for), kind of
	(d) Data collection investment appropriate to client	data wanted, how collected, confidentiality (use)
	3.2. Accurate diagnosis	French & Bell (1973)
	(a) Felt "actual" and "ideal" client situation and needs	Buchanan (1971)
	(b) Client-CA consensus on problem and next step; or	
	(c) Awareness of disagreement and feedback loop to re-contracting (entry) or collection and analysis of additional data	

(Table 15, continued)

PHASE	INTERVENING VARIABLE/PHASE	REFERENCES
3. c. Diagnosis	3.2. (d) Realistic appraisal of resources and constraints	
d. Intervention planning - Program: design, materials, schedule, facilities - CA team planning, role assignment	3.3. Effective planning, logistics (a) Organization of inputs (b) CA role clarity, collaboration	Lynton & Pareek (1970) Beer (1976) Munger, Spencer & Thomson (1976)
4. Planning/Problem Solving/ Training Intervention	4.1. Involve work teams in "family groups"	
a. Contracting b. Concepts training	4.2. Client participation in setting objectives, expectations to felt needs	Knowles (1970), Buchanan (1971), Dunn (1978)
	4.3. Climate of "psychological safety": open communication, trust, self-control, congruence with clients' norms, values	Kolb & Boyatzis (1974), Beer (1976), McClelland (1965), French & Bell (1973), McClelland & Winter (1969) Harrison (1970) - minimum depth Bunnis & Schein (1969) Hellriegel & Slocum (1971)
	4.4. Use all learning styles: (a) New cognitive concepts (b) Experiential/affective (c) Reflective	Kolb (1971), Clark (1975), Greiner (1967), Bennis (1965), Franklin (1976), Beer (1976), Knowles (1970) Lynton & Pareek (1967)
c. Data feedback	4.5. Data feedback (a) Timely (b) Accurate (c) Creates felt actual-ideal discrepancy (relevant, "owned"), hence motivation for change (d) In "family group" meeting (e) Consultant present	Beer (1976) Franklin (1976) Nadler (1977) Kolb & Boyatzis (1974) Wakely (1964), Chase (1968), Klein, Kraut & Wolfson (1971), French et al. (1966), Leavitt (1965), Baumgartel (1959)
d. Problem solving/goal setting/ action planning	4.6. Participants relate data, concepts to identify solutions to real felt problems they have: (a) Identify alternatives (b) Identify criteria for alternative choice (c) Decide on one or more alternatives	Havelock & Havelock (1973) - client initiative to adapt solutions to own situation
	4.7. Participants set realistic time phased goals for change/ use of data/use of learning	Kolb & Boyatzis (1974), Kay, French & Mayer (1965) McClelland & Winter (1969)
	4.8. Participants identify specific action steps for goal accomplishment	
	4.9. Participants identify constraints, links, impact, on other parts of organization	
	4.10. Hygiene factors adequate (accommodations, meals, setting, etc.)	Lynton & Pareek (1967)
	4.11. Retreat setting	McClelland (1965), McClelland & Winter (1971), Beer (1976)
	4.12. "Feedback loop" to diagnosis, planning, or within intervention (evidence that change agents hear client feedback during intervention and modify intervention activities to client needs)	Kolb & Frohman (1970) Argyris (1970) Havelock & Havelock (1973) - "reciprocal feedback"
4. e. Re-entry	4.13. Contact for follow-up activities: continued CA contact, goal progress review meetings, reference group meetings, evaluation, etc.	Rogers (1962) McClelland (1965) McClelland & Winter (1971) Lynton & Pareek (1967)
(5. Action - by client)		
6. Follow-up Technical Assistance and Support	6.1. CA maintains contact with client	Lynton & Pareek (1970)
	6.2. Feedback on change goals, use of learning (goal progress review meetings)	McClelland & Winter (1969) Kolb & Boyatzis (1974)
	6.3. Top management attention and support	Lynton & Pareek (1967)
	6.4. Rewards, reinforcement/ sanctions for participants re intervention goals	Beer (1976), Kolb & Boyatzis (1974), French & Bell (1973), Lynton & Pareek (1967)

(Table 15, continued)

PHASE	INTERVENING VARIABLE/PHASE	REFERENCES
	6.5. Reference groups of participants	Cherns & Davis (1975)
	6.6. Diffusion of effects of change to other parts of organization	Buchanan (1971) Cherns & Davis (1975)
7. Evaluation	7.1. Level (i) Reactions (ii) Learning (iii) Behavior (iv) Results	Kirkpatrick (1967) Dunn (1977)
	7.2. Design (i) Longitudinal (ii) Experimental	Pate, et al. (1976), Srivasta et al. (1975), Cummings, Molloy & Glen (1977)
	7.3. Formative - "post mortems" on why success/failure	Yin et al. (1977)
8. Termination	8.1. Client left with capacity for continued development	
	8.2. Client positive/neutral/negative re. CA, intervention	
	8.3. Pace of termination (i) Gradual/abrupt (ii) Planned/unplanned	Franklin (1976)
	8.4. Reason for termination	

lounges, and medical and other service waiting rooms (Myerchin, 1977). Active, if low key, professional marketing efforts are probably as important for internal consultants as for their private sector counterparts, particularly in voluntary programs where continued support will eventually depend on a flow of clients requesting service (Rogers, 1962; Havelock, 1969).

1.3 Collection of advance data on potential clients: Scouting potential clients by checking performance indicators (recent assignments, apparent felt needs, backgrounds of key personnel) can help change agents prepare for initial client contacts, appear credible and caring for obviously having done their homework, and be more likely to respond or propose appropriate next steps (Navy HRM Cycle, Munger, Spencer, & Thomson, 1976).

1.4 Change agent team-building: Consultant teams must be clear about respective members' roles, feel some consensus about values and objectives, and be reasonably secure consultants because confusion and incongruence may be disconcerting to clients. Like salesmen, consultants apparently must believe in their product and feel comfortable with their role and the methods they espouse. Change agent teams which have shared expectations, have worked out a sensible division of labor, and are comfortable working together stand a greater chance of success (Bennis & Schein, 1969; Beer, 1976; Buchanan, 1971).

2. Entry. In this phase, change agents make initial contact with clients, assess client readiness for change, and contract with one or more client representatives for next steps in the intervention. Kolb & Frohman (1970) and others stress that entry involves a psychological as well as a task or legal contract: A sense of interpersonal trust and confidence must be established between consultant and client for subsequent activities to be successful (Derr & Demb, 1974). Intervening variables which may predict success in this phase include:

2.1 Support of top management: Numerous authors stress the importance of contacting and gaining the active support of persons as high in the management hierarchy as possible. OD practitioners rank this variable highest in priority (ASTD, 1975).

2.2 Development of contact networks and reference group support: Effective change agents appear more able to

meet a larger number of key members in a client organization, making friends and establishing a group of potential supporters (McClelland, 1975; Havelock, 1959; Yin et al., 1977). Social interaction theorists (Rogers, 1962) suggest it is important to identify anyone with a role in the client decision-making process: who proposes the intervention effort, who implements it, who may be impacted by it, who supports it, who opposes it. More effective change agents may be more aware of the various actors, factions, and influence mechanisms in client organizations.

2.3 Congruence with change agent norms, values, and culture: Sensitivity to nuances of client norms, such as language, appearance, social status, education, may be critical to change agent acceptance. Shared qualities increase interpersonal attraction, trust, and credibility--key ingredients in forming psychological contracts (Berschied & Walster, 1969). For example, race relations trainers who did not conform to military grooming and courtesy standards (e.g., had long hair, or used first names with higher ranking personnel) in work with military clients were perceived as less effective. One internal military consultant, a much decorated combat veteran who invariably wore dress uniform with ribbons when contacting clients, observed that, "the flakier your program, the more squared away you must look" (French, 1977). Rank, experience in line assignments, an ability to present OD concepts in military (as opposed to behavioral science or "touchie-feelie") jargon may predict OESO success (Munger, Spencer & Thomson, 1976).

2.4 Presentation of intervention alternatives relevant to client's felt needs: Change agents who listen carefully to clients to determine their felt needs and then present intervention alternatives relevant to these needs will be more successful than consultants who attempt to sell their program irrespective of the client's needs (Havelock, 1969; Beer, 1976; Wittreich, 1966).

2.5 Agreement on clear objectives: Most authors stress the importance of consultant-client clarity and consensus on objectives for the intervention. Interventions appear likely to fail when the consultant implements his own agenda rather than responding to client needs, or when he surprises a client by doing something other than what that client thought had been agreed to. Objectives stated in behaviorally specific terms (Havelock & Havelock, 1973) and clearly related to the

client organization's task or mission (Beckhart, 1969) may increase the chances of intervention success.

2.6 Detailed contracting for intervention resources and responsibilities: Client-consultant contracts which specify intervention structure, role relations, the specific change agent and client contact responsible for managing the intervention process, schedules of activities, cost (financial resources), professional relations (e.g., who has access to data or who gets credit for publication), and the like minimize the chances of misunderstandings that may jeopardize the intervention (McGill, 1977).

2.7 Express positive expectations for intervention success: Positive expectations by change agent and client have a well-documented self-fulfilling prophecy effect. If participants are led to believe that the intervention has a high likelihood of resulting in meaningful changes, these results are more likely to be achieved. Conversely, if the intervention is seen as a routine exercise or "something that won't really change anything," the probability of success is reduced (Rosenthal, 1976; McClelland, 1975). Wittreich (1966) emphasizes the importance of reassuring clients by minimizing their feelings of risk or uncertainty about the intervention.

3. Diagnosis. This phase consists of activities by change agent and client to collect and analyze data about aspects of the client's functioning. Data collection can be formal or informal, and both change agent and client can take more or less active roles in collecting and interpreting data from observation, interviews, surveys, and other data collection methods. The diagnostic phase often includes planning activities which become part of the intervention itself. The following intervening variables may contribute to success in this and subsequent phases.

3.1 Active client participation in data collection: Clients who are appropriately motivated and who participate in providing information about themselves are more likely to own the resultant data and diagnostic conclusions. Respondents should understand why data are being collected, who will see it, and how it will be used. Individual confidentiality and potential benefits to the provider should be stressed. Respondent samples which include persons from more than one hierarchical level may provide more accurate data (Greiner, 1967). Participation during the data

collection phase should not be accompanied by promises of later involvement unless the change agent and the change sponsor are prepared to fulfill such promises. At the same time, both the client and the change agent should be ready to demonstrate that the efforts that go into the data collection lead to some meaningful changes (i.e., explain to respondents "what's in it for you"). Each survey, for example, that does not produce identifiable consequences is likely to increase respondent resistance to subsequent survey efforts.

3.2 Accurate diagnosis: An effective diagnosis should provide a client with both an accurate assessment of his actual situation and some indication of what an ideal situation would be. The tension or discrepancy between the actual and the ideal states can provide motivation and direction for change (Kolb & Boyatzis, 1974; Boyatzis & Spencer, 1976). Change agent and client consensus on the nature of the client's problem and next steps to deal with it is critical. If change agent and client do not agree at this point, they may need to recontract (in effect, return to the entry phase) or collect and analyze additional data, repeating steps in the diagnostic phase. Such disagreements are more likely if data are unflattering. Clients may feel they are being put down, leading change agents to see their clients as defensive. Both or neither perceptions may be accurate. The presentation of the data and the change agent's diagnosis constitutes a test of the effectiveness of the earlier phases of the intervention process because of the energy and tension that surrounds this phase (Argyris, 1970; Nadler, 1977). A good diagnosis includes a realistic appraisal of client resources and constraints which set parameters for possible intervention actions (French & Bell, 1973; Buchanan, 1971).

4. Planning, Problem-solving, or Training Intervention. During this phase change agents feed diagnostic data back to client representatives and help them use this feedback to solve problems, set goals, and plan action steps for improving organizational functioning. Intervention activities can include training in concepts relevant to the OD process. The following intervening variables may predict success in this phase.

4.1 Involve work teams in family groups: Several authors assert that interventions have the greatest impact when they involve natural work teams (e.g., a supervisor and his immediate subordinates--Beer, 1976; Zeira, 1973). Alternatives are peer groups (all participants drawn

from the same hierarchical level of the organization), cousin groups (participants drawn from several hierarchical levels), and stranger groups. These may be less effective because they are less relevant: Such groups cannot deal with the specific task or interpersonal problems encountered in participants' actual jobs.

4.2 Client participation in setting objectives for the intervention meeting: Data feedback, training, or problem-solving activities are best started with yet another brief contracting discussion to surface expectations and set objectives for the specific meeting at hand (Knowles, 1970). Diagnostic activities may have raised questions and issues which must be dealt with before participants are ready to confront problem data or work together to solve problems. Intervention meetings frequently involve client personnel who were not involved in previous phases of the intervention; these people need to be acquainted with the objectives of the effort and given a chance to have their say.

4.3 Creation of a climate of psychological safety: The literature is unanimous in positing this variable as key to the success of an intervention. Change agents must put participants at ease, establish norms of open communication, trust, and self-control. (In this context, self-control means participants are encouraged to feel responsible and in control of the process, not pawns involved against their will.) Consultants create these conditions by appearing congruent with client norms, stating ground rules for behavior during the session, listening empathetically during the contracting discussion, and modeling appropriate behavior. The client also contributes to a climate of psychological safety. Unconfronted or unconfrontable issues within the client system may limit the change agent's freedom. Sebring & Duffee (1977) provide a classic illustration of change agents' finding it impossible to operate in an unsafe environment. Change agents can avoid such situations by accurate scouting or effective contracting and "coaching" of clients during the entry phase.

4.4 Use of varied learning styles inputs: Adult learning theorists observe that mature persons use a variety of learning styles. Kolb (1971) has described four such styles:

Abstract Conceptualization (AC): a preference for learning via academic lectures, reading, and other formal methods which impact abstract concepts and principles

Active Experimentation (AE): a preference for learning through practical, "hands-on doing" and active trial and error experiments with different sessions

Concrete Experience (CE): a preference for learning by feeling and direct experience of learning material in the job or training simulations

Reflective Observation (RO): a preference for learning by passive observation and reflecting on observed material to derive abstract principles.

Kolb asserts that while most adults have a preferred learning style, learning proceeds most efficiently when a learner uses all four styles: learns or formulates an abstract idea (AC), tries it (AE), gets feedback (CE), and reflects on this feedback (RO), to develop a refined idea of how to do the task better (AC), etc. The change process implicitly covers each of the four styles if all the phases are completed. Learning from the diagnostic data demands an RO style, while action steps involve CE and AE styles. Other authors stress the importance of providing participants with a new cognitive concept that unfreezes their existing models of management and organizational behavior, or with affective inputs that involve their personal feelings.

A number of authors (e.g., Greiner, 1967; Franklin, 1976) stress the importance of providing the clients with a conceptual framework that aids both in organizing the data collected in the first diagnostic phases and providing some systematically linked change goals.

Two hypotheses follow from analysis of learning inputs. The first is that interventions should be designed to the dominant learning style of client participants. For example, abstract lectures and heavy reading assignments were found to be inappropriate in training courses for lower level Navy enlisted men, who preferred learning through concrete experiences. Redesign of these programs to include concrete cases and simulations increased both acceptance and learning (Munger, Spencer, & Thomson, 1976).

The second hypothesis is that training and organizational interventions which include varied learning style inputs will be more successful in causing change (Kolb, 1976).

4.5 Data feedback: Several authors assert that OD programs which provide participants with objective data are more likely to result in constructive change. Feedback information should be accurate and timely, within a month of the time it is collected, lest it become stale or invalid due to changes in organizational situations during the intervening period. Data are most effective when they create an actual/ideal discrepancy which creates motivation and provides direction for client change. Feedback is most effective when it takes place in a family group meeting with a change agent present (Klein, Kraut & Wolfson, 1971; French et al., 1956; Beer, 1976).

4.6 Problem-solving by participants: For feedback to be meaningful, participants must use it actively to solve problems. The data used during the diagnostic phase also can be used to develop action strategies. The change agent can use such data to test the feasibility of potential solutions generated by him or the client. Additional data may also be collected to determine which action steps are most appropriate. Problem-solving steps may include identifying solution alternatives, criteria for evaluating alternatives, and decisions on solutions to be implemented. The key ingredient here is that clients take, and are encouraged to take, the initiative to adapt learning or solutions to their own situations (Havelock & Havelock, 1973).

4.7 Goal-setting: Several studies indicate that if participants set realistic, time-phased, measurable goals as a result of the intervention, these goals are more likely to be accomplished (Kolb & Boyatzis, 1974; Kay, French & Meyer, 1965; Carroll & Tosi, 1973).

4.8 Statement of action steps: The more action steps for goal accomplishment are spelled out, the more likely it is that change actions will occur (Kolb & Boyatzis, 1974; McClelland & Winter, 1969).

4.9 Identification of effects on other parts of the organization: Problem-solving processes that include identification of helpful and hindering forces, and

links and impacts the intervention may have with other actors in the organization may increase the likelihood of changes being accepted (Kolb & Boyatzis, 1970), assuming that such information is acted upon.

4.10 Adequate hygiene factors: A comfortable environment (e.g., accomodations, meals, absence of noise and distracting stimuli) may contribute to intervention success. Excessively luxurious settings may also be distracting (e.g., fancy resorts with open bars) to the point where participants play rather than work (Buchanan & Reisel, 1977; Lynton & Pareek, 1967).

4.11 Retreat setting: One environment factor that has been shown to make a difference is conducting interventions in a retreat setting where participants are isolated from normal role requirements, information, and distractions. Schein (1961) observes that isolation from environmental supports and demands is an important unfreezing mechanism. McClelland & Winter (1971) and Miron (1969) have shown that participants trained in retreat settings change more than those trained in their usual environment. Retreat settings may, however, create re-entry problems, especially when used with non-family groups (Back, 1974).

4.12 Feedback loops to diagnosis, planning, or intervention design steps: Several authors stress the importance of feedback loops in intervention processes--the change agent's ability to sense when the intervention is getting into difficulties (or the client's needs change in medias res) and to respond by taking actions to get it back on course. This may mean returning to an earlier point in the intervention cycle or terminating the effort. It should be emphasized that the change can get into difficulties at any point. Key people can leave or go on vacation (Luke et al., 1973; McMillan & Langmeyer, 1975). Resistance can develop as the implications of the diagnosis and action steps are considered (Argyris, 1974; Luke et al., 1973). Moreover, change agents may make technical or judgmental errors (McMillan & Langmeyer, 1975). It may be that problems stemming from the earlier phases of the change effort manifest themselves only when the level of commitment is increased. Latent misunderstandings can suddenly surface when either clients or change agents are required to take specific, risky action steps. Effective change agents and intervention processes are described as "flexible" or

"client-centered" (Argyris, 1970; Kolb & Frohman, 1970; Havelock & Havelock, 1973; Carter, 1976). Effective intervention strategies will be those that build in the means and motivation for detecting errors either on the part of the client or the change agent.

4.13 Contract for follow-up activities: The effects of many interventions, especially training programs, do not last beyond the end of the program because no provision is made for follow-up activities designed to ensure that changes are, in fact, implemented and reinforced in the work place environment (Franklin, 1976). Sometimes called re-entry activities, follow-up alternatives include provision for continued change agent contact, goal progress review meetings, establishment of reference groups of persons committed to the intervention objectives, or evaluation of the effort. More effective interventions may include contracting for follow-up activities as part of the intervention meeting (Rogers, 1962; McClelland & Winter, 1969; Lynton & Pareek, 1970). Moreover, a number of authors (e.g., Golembiewski et al., 1972; Brown, 1976) suggest that change agents can build up credibility by maintaining contacts with clients. This is also true for internal change agents (Dyer et al., 1970).

5. Action (by client). In this phase, the client implements any action steps identified in the preceding intervention planning phase. The change agent has no direct role in this phase. Intervening process variables which may affect successful or unsuccessful actions by the client are discussed above under Planning, Problem-solving, or Training Intervention, or below under Follow-up.

6. Follow-up Technical Assistance and Support. In this phase, change agents maintain supportive contact with the client, providing feedback, additional assistance, and reinforcement to client personnel implementing changes. The following factors may predict successful implementation and endurance of changes.

6.1 Change agent maintenance of contact with clients: Social interaction theorists observe that innovations and individual "changers" are naturally insecure and need continued help from prestigious and/or expert change agents to see that changes in fact take hold (Rogers, 1962; Havelock, 1969). Broshowski, Memos, & Khajavi (n.d.) argue that organizations need "stay agents" as well as change agents to keep changes alive. Interventions in which consultants maintain contact with clients during and after the planning and action phases may be more successful (Argyris, 1977).

6.2 Feedback on change goals (or use of learning): Self-directed change theory (Kolb & Boyatzis, 1974; McClelland & Winter, 1969) indicates that the more feedback people receive about change goals they have set, the more they change. Investigations of management by objectives programs have produced similar findings. Interventions which include goal progress review meetings (Caroll & Tosi, 1973; Straub et al., 1976) at regular intervals after the planning and action phases should similarly result in more observable results.

6.3 Top management attention and support: Indications of continued interest and support from top management should stimulate maintenance or confirmation of change (Lynton & Pareek, 1970).

6.4 Rewards and reinforcement (or sanctions) for change objectives: Learning theory experiments have repeatedly demonstrated the effects of rewards on reinforcing subjects' new or changed behaviors. Clear rewards for implementing change objectives (top management attention, new titles, enhanced "visibility" or status, new job responsibilities, increased pay, opportunities for further education, or other self-development activities) are some of the rewards that can be used to reinforce interventions. Sanctions (for example, downgrading on an employers' performance appraisal for failure to meet affirmative action goals) are a possible, if less common, method of sustaining intervention effects. (Negative reinforcement is generally considered less effective than positive reinforcement.)

6.5 Establishment of reference groups: One powerful method of sustaining change is to encourage intervention participants to continue to meet on a regular basis to discuss intervention learnings, review progress and problems in achieving innovation goals, and generally support and reinforce one another (Schein, 1969; Rogers, 1962; McClelland & Winter, 1969).

6.6 Diffusion of changes to other parts of the organization: Organizational interventions may be more effective if they involve change on a systematic basis by a number of organizational work-groups, each in a way that reinforces the change by the others. In this way the change may become institutionalized, so imbedded or interwoven in the organization's bureaucratic functions, structure, and budget that it becomes

difficult to uproot or stop. A diffusion of innovations (the "band wagon" effect) may also be encouraged by vigorous efforts to spread the intervention. The more work-groups that participate, the more legitimate or inevitable the change process may appear to work groups yet to be involved. As these groups act to "get on board," the momentum of change is increased.

7. Evaluation. In this phase, change agents and/or clients make some attempt to assess the effects of the intervention, either to improve intervention methods (formative evaluation) or to summarize final results (summative evaluation). Evaluation, by its very nature, has the effect of reinforcing change objectives by providing feedback on goal attainment (the follow-up mechanism described under 6.2 above).

7.1 Level of evaluation: Kirkpatrick (1967) has suggested that intervention can be evaluated at four levels.

Reaction: how much participants like a program--for example, a questionnaire asking client work group supervisors whether they found an OD program or seminar very valuable, somewhat valuable, or not at all valuable

Learning: what participants learn from a program--for example, knowledge of Army equal opportunity directives as measured by a multiple choice or short answer test on legal rulings or proper procedures for handling discrimination complaints

Behavior: whether or not participants actually change their behaviors as a result of a program--for example, whether or not a command actually develops a written action plan after completion of a goal-setting and planning workshop

Results: whether or not the command actually changes on hard outcomes as a result of a program--for example, whether or not a command's retention rates, combat preparedness ratings, non-judicial punishment actions, or percentages of minority persons promoted from E4 to E5 change as a result of the intervention

In general, reaction and learning evalution data are relatively quick, easy, and cheap to get, whereas collecting behavior and results data is more difficult,

more costly, and requires considerably more time. For example, OESOs can get immediate feedback on an effort by asking participants to complete a simple reactions form or learning test during the last half hour of almost any workshop. Measuring behavior or results changes caused by an intervention, however, is likely to require several person-days of data collection and cannot be practically conducted until some months after the intervention has been completed. In general, except for some formative purposes (e.g., getting quick data on how much participants like a workshop to redesign it for the next day), results data are most useful, followed, in decreasing order of usefulness, by behavior, learning, and reactions.

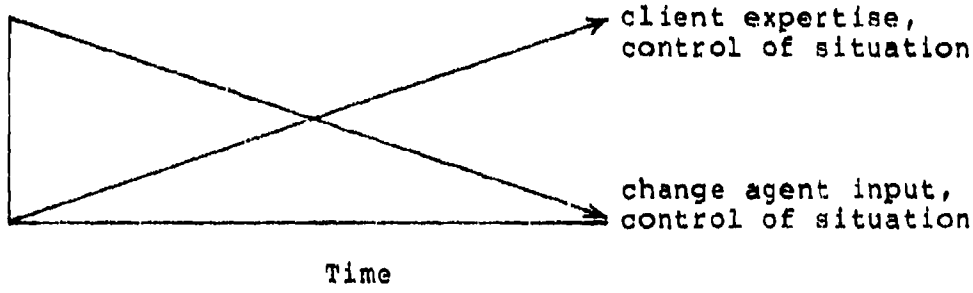
Commitment to higher levels of evalution may predict intervention success (Kolb & Boyatzis, 1974; Munger, Spencer, & Thomson, 1976). Formative post-mortem evaluation efforts, in which consultants review why a given intervention succeeded or failed, can improve both change agent skills and intervention methods. Formal cost-benefit evaluations may reinforce intervention outcomes because they involve some of the follow-up mechanisms previously discussed: top management attention, feedback, or rewards and sanctions.

7.2 Evaluation design: Several references reported detailed analyses of OD studies using the internal and external validity criteria proposed by Campbell & Stanley (1966). More elaborate experimental designs, reporting results less susceptible to artifacts caused by these factors, are considered more successful by academic standards (Pate et al., 1976; Srivasta et al., 1975; Cummings, Molloy, & Glen, 1977). It is questionable, however, whether elegance of methodological design carries much weight with operating managers.

7.3 Political sensitivity in the use of evaluation findings: Evaluation findings can have potent political impacts. Data which indicate programs favored by top management are ineffective, or otherwise embarrass influential persons or organizational interest groups, can result in intervention failure and termination of the change agent. Favorable data astutely used can add considerable impetus to the change effort. Consultants who carefully calculate the political impacts of evaluation data may be considered more effective.

8. Termination. In this phase the change agent withdraws from the client system. Termination characteristics which may be predictive of more successful interventions include:

8.1 Transfer of capability to the client: Theories of successful consulting usually assure that client dependence on the change agent decreases over the period of an intervention.



Change agents who keep the client dependent are considered less effective and, in some cases, even professionally unscrupulous. Effective consultants presumably work to transfer their knowledge and skills to their clients, enhancing the latter's capability to continue development efforts with less external assistance. Interventions in which consultants succeed in transferring capability to their clients (as perceived by the client) may be more successful (Havelock & Havelock, 1973; Lippitt & Lippitt, 1975).

8.2. Pace of termination: Franklin (1976) observes that change agent termination of contact with clients can be gradual or abrupt, and planned or unplanned. The implication is that, in effective interventions, termination is gradual and planned.

8.3. Reason for termination: Successful interventions presumably are terminated because their original objectives are achieved or the client has developed the capability to continue developmental efforts without external assistance. Neutral reasons for termination include exhaustion of resources, withdrawal of change agent or client for reasons beyond either's control, or completion of the agreed upon sequence of activities.

(Simple completion of a series of steps may connote either success or failure.) Unsuccessful interventions are terminated for reasons of dissatisfaction by client or change agent (e.g., because of inability to agree on objectives or methods, failure to achieve objectives, personality clashes, or excessive use of resources).

CHAPTER V. OUTCOME VARIABLES

Few of the references reviewed explicitly classified outcome variables. The two most useful methods identified were those of Kirkpatrick (1967), discussed above under Intervening Process Variables, and Srivasta et al. (1975). Srivasta classifies outcome variables under four headings:

1. performance
2. withdrawal
3. internal state
4. attributes

A combination of the Kirkpatrick and Srivasta schemes, illustrated in Table 16, has been used to organize the outcome variables found in other references reviewed. Principle categories are as follows:

1. Reactions/Internal States. Variables in this category included:

   - perceived effectiveness--"soft measures" of intervention success based on clients' feelings of how well their initial objectives or "admitting complaints" had been satisfied by the intervention process
   - attitude change--change in participants' feelings, values, problem awareness, or consciousness, as measured by respondent interviews or surveys, (e.g., changed attitudes toward minority employees as a result of a race relations awareness workshop)
   - new norms--changed participant perceptions of permissible or desired behavior in an organization
   - tension release--a change in participant feelings of stress, anger, or conflict as a result of having a chance to express feelings and/or participate in solving felt problems during the course of an intervention
   - organization climate (survey) perceptions--a change in organization members' scores on organizational climate dimensions (which can include any of the preceding reaction variables), as measured by a survey instrument

TABLE 16

Taxonomy of Outcome Variables

Category	Variable	Reference
1. Reactions/ Internal States	• perceived effectiveness	Dunn & Swierczek, 1977.
	• attitude change	Yin et al., 1975; Pate et al., 1977; Srivasta et al., 1975.
	→consciousness raising	Cherns & Davis, 1975.
	→new value systems	Bennis, 1965; 1969.
	• new norms	Bennis, 1965, 1969; Litwin & Stringer, 1968.
	• tension release	Bennis, 1969.
	• organization climate (survey) perceptions	Bowers, 1973; Franklin, 1976.
2. Learning		
• internal states	• motivation	Klemp, 1977; McClelland & Winter, 1969.
• performance	• knowledge content	Lynton & Pareek, 1967.
	• cognitive	Klemp, 1977.
	• interpersonal	Klemp, 1977.
3. Behavior/ Performance	• skills (demonstrated performance)	Lynton & Pareek, 1967.
	• group process behaviors: leader-member (managerial practices or "style") or member-member	Pate et al., 1977; Bales, 1970.
	→goals/objectives set	Kolb & Boyatzis, 1974; Carroll & Tosi, 1973.
	→plans	Yin et al., 1975.
	→communications procedures (policy statements, meetings, etc.)	

Table 16 (continued)

Category	Variable	Reference
	→participative behavior	Srivasta et al., 1975.
	→feedback, performance appraisal meetings	Srivasta, et al., 1975; Carroll & Tosi, 1973.
	→conflict resolution	Bennis, 1969.
	• approach adoption/ acceptance of new practices/dissemination	Rogers, 1962; Dunn & Swierczek, 1977; Greiner, 1967; Yin et al., 1975.
	• job procedures	Srivasta, et al., 1975.
4. Results		
• performance	• financial →sales →return on sales →profits →return on investment →budget: resources, funds available	Becklean & Kinkead, 1968; McGill, 1977; Pate et al., 1977.
	→variance from budget (deficit reduction)	Pate et al., 1977.
	→"economic activity"	McClelland & Winter, 1969; Miron, 1976.
	• performance criteria	McGill, 1977.
	→inspection scores (e.g., TG, ARTEP)	Spencer, Klemp & Cullen, 1977.
	→mission accomplishment objectives (e.g., hours flown, confirmed "kills")	
	→productivity/efficiency (e.g., scrappage rates, inventory levels)	
• withdrawal	• retention/turnover	Srivasta et al., 1975.
	• absenteeism/unauthorized absence	Pate et al., 1977.
	• disciplinary actions	Spencer, Klemp & Cullen, 1977.
	• health/accident rates	

Table 16 (continued)

Category	Variable	Reference
• attribute →individual →work group →organizational	• personnel characteristics: number, age, sex, etc.	Srivasta et al., 1975.
	• structure/power relations	Buchanan and Reisel, 1977; Bennis, 1969.
	→reduce number of hierarchies	Srivasta et al., 1975.
	→span of control	
	→integrator staff positions	Lawrence & Lorsch, 1969.
	• technology	Kast & Rosensweig, 1970.
	• job design	Srivasta et al., 1975; Hackman, 1977.
	→"whole" tasks →variety →autonomy →feedback →employee influence →interaction with others	

2. Learning. Variables in this category can include both internal state and performance measures, depending on how change in motivation is conceptualized. These variables are usually assessed in an artificial environment (e.g., by a respondent test at the end of a training program, as opposed to demonstration of on-the-job-skills, which is a behavior variable). Four types of learning variables were encountered:

- motivation--enhanced participant energy, desires, or direction as a result of training or intervention (for example, increased achievement motivation)
- knowledge content--measures of participants' information recall after training in a specific subject area
- cognitive--measures of participants' increased ability to organize information, draw conclusions from complex data, generate creative solutions to hypothetical problems, and think critically
- interpersonal--measures of participants' knowledge of communication, empathy, group process dynamics, or their learning related to interpersonal behavior

3. Behavior/Performance. Variables in this category measure either what participants can do (e.g. behavioral skills exhibited in on-the-job performance) or have done (e.g., evidence of a written goal statement or action plan) as a result of an intervention. Measures in this category included:

- skills--performance behaviors demonstrated in a simulated or actual job context
- group process behaviors--evidence of new leader-member behavior (e.g., changed managerial practices such as increased participative listening to subordinates or provision of feedback) and/or member-member or group behaviors, such as the development of action plans or reduced conflict in group interactions
- approach adoption--measures of the extent to which procedures or the innovations introduced by the intervention are actually being used by organizational members (i.e., behavioral evidence of acceptance or dissemination of new practices)
- job procedures--measures of the extent to which participants exhibit new behaviors specific to the ways they do their jobs

4. Results. Variables in this category are the "hard" or "bottom line" outcomes resulting from an organizational intervention. These measures can be grouped under Srivasta's headings of performance, withdrawal, and attribute outcome variables.

Performance measures include:

- financial variables--for example, sales, profits, performance against budget, or other monetary measures of an organization's operating efficiency or effectiveness

- performance criteria--a catchall category of nonfinancial indices (e.g., combat preparedness or other military inspection scores, accomplishment of measurable mission objectives, productivity or efficiency measures used as indicators of a client organization's performanc)

Withdrawal meas . include direct indicators of personnel satisfaction and participation in organizational task activities: employee retention and turnover rates, absenteeism/incidence of unauthorized absence, disciplinary actions, and health and accident rates.

Withdrawal due to disciplinary actions, health, or accidents is usually considered an objective measure of employee internal states rather than of performance. Proper behavior and good health is presumed to be a function of employee care, concern, and absence of stress. Conversely, misconduct, poor health, and accidents are thought to result from employee stress, introjected anger, inattention, or lack of concern.

Attribute measures include changes in individual, work-group, or organization characteristics:

- personnel--changes in the number, age, sex, race, educational level, or competence of persons employed in the organization

- structure--changes in organizational design (e.g., formal power or reporting relationships, functional or project responsibilities, number of hierarchical levels, span of control, or introduction of integrator staff positions or matrix organizations

- technology--changes in physical plant, equipment, or environment

- job design--changes in the extent to which jobs are enriched or enlarged by employee opportunities to complete whole tasks, perform a variety of different functions, work autonomously, receive feedback on task accomplishment, or interact with or influence others

It should be observed that results variables often act in complex relationships with one another. For example, the usual outcome of a discrete OE intervention "episode" (a single completed intervention technique, e.g., a training program or survey-guided development sequence) is an action plan consisting of the steps a supervisor, work group, or organization will take to deal with some problem. The presence or absence of a plan of this type, and its quality (measured by scoring it for the presence of moderate risk goals that are concrete, and time-phased--self-directed change dimensions known to increase the likelihood of goal accomplishment) provide a first-order indicator or "mediating" outcome result. Whether or not (or how many of) the action steps stated in the plan have in fact been accomplished six months later would provide a second-order outcome measure. The degree to which these action steps produced higher scores on a work environment questionnaire administered nine months later might provide a third-order (but still "mediating") outcome indicator. Increased retention rates or ARTEP inspection scores, or reduced nonjudicial punishment actions associated with this change in work environment would provide the final "bottom line" outcome results of the OE invervention.

Summary

This section has reviewed and taxonomized organizational intervention variables under four major categories: change agent, client, intervention method and process, and outcome variables. An outline summary of the component variables in each category is presented in Appendix C, the Case Analysis Observation Form.

The principle general finding of the review is that static characteristic change agent and client variables, and the labels given organizational intervention methods, have relatively little power to predict intervention success or failure. The critical factors in an intervention appear instead to be (1) change agent competencies, and (2) intervention process dynamics: what actually happens during an intervention and the skill with which the change agent responds in complex interactions with his or her client. Researchers in two analogous fields of applied behavioral science--psychotherapy and small group leadership--have reached the same conclusion (Truax & Carkhuff, 1966;

Lieberman, Yalom, & Miles, 1973). It follows that research efforts which seek to define the competencies of the most effective Army OESOs, and the process characteristics of successful as opposed to unsuccessful OE interventions, are likely to be most productive in generating new knowledge.

CHAPTER VI. ORGANIZATIONAL DEVELOPMENT RESEARCH METHODS

A variety of research methods has been used to study change in organizations. Originally the field was dominated by a select number of classic case studies (Argyris, 1965; Jacques, 1952; Seashore & Bowers, 1963). While the case study method has remained popular among theorists and practitioners (Bennis, 1968; Cherns & Davis, 1975; Clark, 1975; Emery, 1975; Walton, 1972), the number of qualitative correlational studies (Srivasta et al., 1975) and more carefully controlled experimental studies is growing, despite the difficulties associated with field research. Unresolved questions exist, however, concerning the most appropriate research method. The purpose of this section is to elaborate some of these methodological questions and propose a methodology for future research.

This chapter is divided into five parts. First, a recent exposition of experimental design in field settings is summarized and related to organizational change efforts. Second, the empirical literature on experimental research designs in the area is summarized and reanalyzed to indicate the interactive effects of research design on study variables and findings. Third, the critical attributes of the case study method are discussed. Fourth, the methodological issues confronting researchers are summarized. Lastly, some prescriptions for future research are discussed.

Experimental and Quasi-Experimental Designs in Field Settings

Cook & Campbell (1976) define an experiment as follows:

> "By 'experiment' we understand any experimenter controlled or natural occurring event (a 'treatment') which intervenes in the lives of respondents and whose probable consequences can be empirically assessed." (p. 224)

The authors distinguish between a "true" experimental design, where the respondents are randomly assigned to treatment conditions, and a quasi-experimental design, where assignment is non-random. Both are considered "vehicles for testing causal hypotheses," the fundamental purpose of any experiment.

The quality of an experiment is dependent upon the number of possible threats to the accuracy of the resulting causal hypotheses for which that can be controlled. Four main sources of threat exist: internal validity, external validity, statistical validity, and construct validity. Internal validity refers to the confidence that a given organizational change was in fact the cause of the observed effects. External validity refers to the confidence with which the causal relationship identified can be "generalized beyond the specific population, environment and operational definitions of the independent and dependent variables used in the study" (Cummings et al., 1977). Statistical conclusion validity is a special case of internal validity and refers to the confidence that statistically significant findings (or the absence of any) are a relevant and accurate test of a causal hypothesis. Construct validity refers to the extent to which treatments or measures accurately represent the theoretical constructs being tested.

An elaboration of these threats to the validity of field experiments provides both a means for evaluating existing change efforts and a source of design principles for future organizational change efforts. While many of these threats can be minimized fairly easily in highly controlled settings (e.g., the laboratory), most practitioners and researchers in organizational change efforts must either design their field experiments to deal with each threat or undertake more elaborate statistical analyses to neutralize potential validity threats. The definitive of these threats, therefore, forms a checklist for practitioners and researchers that allows them to determine how confident they should be about their findings.

Cook & Campbell (1976) present a list of 13 threats to internal validity:

1. History refers to events which occur at the same time as the treatment and which, therefore, can provide an alternative explanation of the results. This is an extremely common threat in field experiments that extend over a prolonged period or which cover a large number of activities. For example, Kimberly & Nielsen's (1975) findings of positive changes in quality and profits after an OD effort also coincided with the termination of a strike.

2. Instability refers to the inherent unreliability of measures, fluctuations in sampling units, and autonomous instability of repeated measures. Kimberly & Nielsen (1976), in a further analysis of the same data, found that the absence of any change in productivity was because "this particular index of performance was outside the direct control of the plant management and more a function of corporate policy and market conditions."

3. Maturation refers to changes in characteristics of the respondents as a function of time. Changes in satisfaction, for example, have been shown to vary over time (Katz, 1976) while productivity varies with experience.

4. Testing refers to the effects of taking a test on the scores of subsequent tests. This is particularly true for tests that have a high evaluative or normative content (e.g., Likert's Organizational Profile).

5. Instrumentation refers to any changes in the methods of measurement. This is particularly a problem with certain performance measures. For example, a quality indicator may vary because standards or the items have changed.

6. Regression refers to the tendency of extreme performance or attitude scores to move towards the mean. Since many change efforts are remedial, there is a built-in tendency to obtain positive results (Bowers & Hausser, 1977).

7. Mortality refers to the differential loss of subjects, in terms of representativeness, from the treatment groups. Mortality is likely to be a major problem in the Army (Siegfried, 1975) due to personnel rotation; Warwick (1973) observes similar problems in organizations with high turnover.

8. Selection refers to the biases caused by differential recruitment of subjects into treatment groups. In field experiments this is the most difficult to control, since there are clear restrictions on the ability to rearrange the work force.

9. Interaction with selection refers to the second-order consequences of selection stemming from responses to history, maturation, testing, and mortality. Selection-maturation is the most common and results when experimental groups are composed, for example, of experienced and inexperienced workers who develop at different rates.

10. Ambiguity about the direction of causality refers to the frequent difficulty of determining causality. Staw (1973), for example, has pointed out that changes in performance may lead to perceived changes in organizational climate, thus potentially confounding the evaluation of change efforts that focus on improving organizational climate as a means of improving performance.

These threats to internal validity, according to Cook & Campbell (1976), can be controlled for by the random assignment of individuals to treatments. The following three threats are not controlled for by randomization.

11. Diffusion or imitation of the treatment arises when the nature of the treatment becomes known to the control group. For example, Muczyk (1975), in an MBO experiment, assumed that his control group did not hear about the treatment. Clearly, when the change strategy is open to imitation (i.e., greater feedback to subordinates), this threat is particularly potent.

12. Compensatory equalization of treatments may obscure differences, particularly where the initial treatment is valued positively, because pressure will be exerted to maintain equity. Changes in a rewards system are particularly prone to this problem. The absence of equalization may lead to demoralization of the comparison group and reduced performance.

13. Compensatory rivalry occurs when differences between experimental and control group treatments become known and competition is engendered. In work study experiments, for example, it is known that performance levels can vary by huge amounts over short periods of time (Roy, 1952). Saretsky (1972) describes this as the "John Henry effect" in honor of a railroad steel driver who, when he found out his work was being compared to that of a power drill, killed himself through over-exertion in his successful effort to out-perform his rival. Such rivalry will obscure the effects of the treatment.

When, as in the case of quasi-experiments, randomization is not possible, each of these threats has to be ruled out explicitly. In other words, individual analyses of the make-up of groups, the impact of tests, their reliability, and the monitoring of possibly confounding events must all be separately undertaken.

Cook & Campbell identify four threats to external validity:

1. Reactive effects of testing refers to the effects of a pretest on a subject's responsiveness to the subsequent treatment, thus requiring that a pretest be part of the treatment. This is particularly important in OD change efforts where there is a heavy reliance upon attitude questionnaires both as a pretest and as a source of data for the change effort. Survey-guided development is consequently difficult to fit into the experimental method.

2. Interaction effects of selection and treatment refers to the unrepresentative responsiveness of the treated population. It is generally assumed that volunteers, especially when the treatment is unusual, are not representative and are more likely than non-volunteers to respond more to the treatment (Cooper, 1975). A recent study (Cooper 1977) of experiential learning

groups (T-groups) found that "participants who are seen to gain most, contrary to expectations, were those sent by their organizations on the training programs" (p. 1121). This effect cannot be dismissed, but Cooper's results suggest that it needs to be examined more carefully.

3. Reactive effects of experimental arrangements refers to the artificiality of the experimental setting in that the treatment is unlikely to occur in the same situation. This refers not only to the physical setting but also to the change agent. It seems important, for example, to note whether the experimenter is a young graduate student, a well-known researcher/consultant, or a low status (or high status) internal change agent, and whether he is likely to be the change agent in other settings.

4. Interaction of treatments refers to the cumulative or off-setting impact of multiple treatments. This is an important issue since the majority of change efforts in organizations are of this form (Cummings et al., 1977). One solution is to consider the multiple treatments as a single treatment, but this ignores the complications due to the order and spacing of individual treatments.

A number of strategies exist for controlling for these threats to external validity: random sampling from the entire population of respondents and settings, heterogeneous sampling to cover those respondents and settings of primary interest, and a specific target population. Without a theory to fill in the gaps, controlling for external validity is an arduous and tentative endeavour.

Cook & Campbell identify six threats to statistical conclusion validity:

1. Statistical power refers to the ability of the statistical tests selected for analyzing results to allow for the drawing of correct conclusions. Incorrect conclusions include the finding of no-difference when one exists (Type II error) and the finding of a difference when none exists (Type I error). Statistical power varies with, among other things, sample size, one- or two-tailed hypothesis testing, level of significance, and non-parametric statistics.

2. Fishing and the error rate problem refers to the finding of spurious differences when multiple comparisons are made. This is particularly important when multiple indicators or criterion measures are used, as is often the case with attitude questionnaires.

3. Reliability of measures refers to the stability or test-retest reliability of an instrument. Low levels of reliability inflate the error term and give inaccurate indications of true changes.

4. Reliability of treatment implementation refers to the error due to variations in the implementation of the treatments. Many of the change methods available are unstandardized, which increases their error variance. This problem makes the statistical comparison of different methods an extremely difficult enterprise (Bowers, 1973; Bowers & Hausser, 1977).

5. Random irrelevancies in the experimental setting refers to those features of the experimental setting which affect dependent variable scores and thus inflate error variance. Field experiments by their very nature, therefore, cannot be expected to reach the levels of explained variance obtained in the laboratory, unless measures of these irrelevant features are made and statistically taken into account.

6. Random heterogeneity of respondents refers to those characteristics of the individuals which affect dependent variable scores and thus inflate error variance. Historically, this source of error is frequently statistically controlled.

Correcting for the last two threats to validity demonstrates that trade-offs between different threats to validity are often called for. In this instance, an homogenization of either the setting or the respondents reduces the external validity of the findings.

Cook & Campbell identify nine threats to construct validity:

1. Inadequate pre-operational explication of constructs refers to a failure to specify constructs in such a manner that the resulting treatment and dependent variable measures do not allow an unambiguous testing of the hypothesis being considered.

2. Mono-operation bias refers to the use of a single exemplar of a treatment or a possible effect. In order not to add to the error variance, however, multiple exemplars should be deliberately varied.

3. Mono-method bias refers to the error that arises from a single method of either delivering the treatment or recording the results. The use of attitude questionnaires in change efforts is perhaps the most pervasive occurrence of this bias.

4. Hypothesis guessing within experimental conditions refers to the ability of human subjects to artificially provide the researcher with the results he either wants or does not want. In field experiments where respondents perceive real and significant consequences for themselves, this tendency is likely to increase.

5. Evaluation apprehension refers to a respondent's concern with how he is being evaluated by the researcher and the likelihood that his reactions to the treatment are determined in part by this concern. Again, in field experiments around organizational change, this is a real issue, especially when the change agent is affiliated with the personnel department.

6. Experimenter expectancies refers to the experimenter's capacity to bias the data. King (1973, 1974), for example, showed how the provision of different expectations to managers in an OD effort produced different results in the expected direction.

7. Interaction of procedure and treatment refers to a confounding of treatment due to new experiences or information that arises in the context of treatment and that is not part of the treatment. For example, many organizational change efforts bring subordinates in closer contact with their superiors or with others in a company, and this may have an unaccounted for impact on the dependent variable. Thus OD laboratories may work because of the contact with others, and not because of experiential learning techniques.

As Campbell & Cook note:

> "Field research affords poor prospects for achieving high construct validity of the cause. This is because it is costly to implement multiple operationalizations of a single causal concept....The prospects are brighter for the high construct validity of outcomes because investigators typically have a much greater latitude for multiple measurement than for multiple manipulation." (p. 245)

Three points need to be made with respect to the relationships among the four kinds of validity. First, increases in one kind of validity may decrease another kind. For example, multiple operationalization of effect measures may increase mortality by producing more non-responses or may add to selection effects. This being the case, few studies will be able to control for all the threats to validity. Second, internal validity is essential and remains of highest priority if the purpose is to generate unambiguous causal statements. Third, the priority ordering of the other threats depends upon the purpose of the research. For theory-testing, the ranking is internal, construct, statistical

conclusion, and external validity. For theory-generation, the ranking is probably construct, internal, external, statistical conclusion validity. For the practitioner, the ranking is probably internal, external, construct, and statistical conclusion validity.

Few field experiments meet the randomization assignment requirement of a "true" experiment and most fall into one of three basic categories. First are those experiments with only post-test measures. This is the design most often associated with the case study method. Its findings can only be suggestive of future hypotheses. No causal statements can be derived from such a design. The second category consists of experiments with a pretest and post-test but no control or comparison group. Again there exist strong threats to internal validity. The final category consists of experiments with a pretest and post-test for both the treatment and the control groups. In this instance there is the chance that the threats to internal validity can be assessed.

• A modification of the second and third design involves time series measures: that is, multiple pretests and post-tests. This is a stronger design in that it allows the monitoring of exogenous events that may influence the results (e.g., the strike in Kimberly & Nielsen's 1975 study; it requires the use of non-obtrusive measures, since multiple uses of a questionnaire will be resisted by most subjects; and it allows regression effects to be controlled. Where time series data is used, however, care must be taken to test statistically for maturation threats because of general trends within the data. Cook & Campbell (1977), Kimberly & Nielson (1975), and Armenakis & Field (1975) illustrate how this maturation effect both occurs and can be statistically handled. Cummings et al.'s (1977) exclusion of maturation as a threat to internal validity in their methodological critique of work experiments is simply an error.

To summarize, Cook & Campbell (1977) present an extensive and nearly exhaustive list of threats to the validity of research studies in organizational change that can be used as design principles for further OD efforts and as analytical categories for assessing the value of existing experiments and quasi-experiments (Srivastva et al., 1975). The next step is to provide an analytical summary of existing research studies.

A Methodological Analysis of Organizational Change Research

The design of research studies on organizational change efforts vary considerably, with a few being close approximations to "true" experiments (Cook & Campbell, 1976) and others being "after the fact" descriptions of change efforts. This section is based on three recent methodological reviews: Cummings et al., 1977; Pate et al., 1976; White & Mitchell, 1976.

The first section summarizes the empirical findings concerning threats to validity. The second section reworks the data presented in these three reviews to draw out some additional points concerning research designs.

Threats to Validity

Internal and external validity are the main focal points of attention in the methodological critique of Cummings et al (1977) and Table 17 summarizes the authors' results. With respect to threats to internal validity for performance findings in 51 studies, potential threats from instability, mortality, and selection-interaction are present in more than 50 percent of the experiment. These threats are sufficiently pervasive that it is unwise to infer that the overall positive performance improvement indicates that work experiments have their predicted effect. (Pate et al. found that 40 percent of those studies, n = 17, using performance measures also failed to statistically analyze their results.) Cummings et al., (1977), while noting that time series studies reduce regression biases, fail to note that where such designs are utilized, maturation threats must be controlled. The authors conclude by calling for additional studies that specifically control for mortality and statistical tests. Threats from mortality should not be discounted since they are potentially very important where change agents or management want the results to be positive (Carey, 1967; Gardner, 1977).

Threats to the external validity of performance findings are even more severe. Selection/treatment and experimental arrangements are threats stemming from the way respondents and sites were chosen. Either is sufficient to produce a "Hawthorne Effect." The authors do note, however, that the positive results of the experiment were uninfluenced by a wide variety of contextual variables (e.g., sex, union, country, type of work).

TABLE 17

Relative Importance of Threats
to Internal and External Validity

Source of Threat	Percentage of Cases Where Threat is not Controlled	
	Performance (N = 51)	Attitude (N = 42)
Internal		
• History	49	45
• Instability	75	40
• Testing	4	21
• Instrumentation	44	21
• Regression	49	52
• Mortality	27	45
• Selection	90	95
• Selection/History	51	61
External		
• Reactive Effects of Tests	2	57
• Interaction Between Selection & Treatment	94	100
• Reactive Effects of Experimental Arrangements	90	76

Attitudinal findings are weaker than performance findings, with potential threats from regression, mortality, and selection-interaction being the most salient. The results on instability are also supported by Pate et al.'s (1976) finding that 34 of 37 studies (92 percent) statistically analyzed attitudinal results. They differ substantially, however, from White & Mitchell's (1976) finding that 60 percent of the 44 studies reviewed had inadequate statistical procedures. This variation is accounted for by the different samples of studies on which the authors based their analysis. The potential reactivity of attitude measures increases the threat from testing, while the absence of comparison groups sharply increases the threat from selection. The major critical threat to the positive attitudinal findings is the selection-interaction findings principally because "experimental subjects may react...to attitudinal tests differently than comparison subjects, thus causing an improvement in attitudes irrespective of the experimental treatment." This is paralleled by the testing/treatment external validity threat where testing may sensitize subjects to the treatment. In survey-guided development, however, change agents see such sensitization as part of the treatment.

The high levels of external validity threats receive additional support from White & Mitchell's (1976) finding that only 25 percent of 44 studies were free of possible Hawthorne Effects because of the special attention paid to the experimental group.

These results clearly indicate that if existing studies are to be validated, additional studies need to be undertaken that explicitly attempt to compensate for the marked deficiencies of existing studies. Such studies, if they also produce positive results, will demonstrate that threats such as mortality and selection-interactions are not crucial (Notz, Bigelow, & Salipante, 1975).

Finally, as Cummings et al. note, future studies must also focus on contruct validity, especially the way the treatment is implemented, interpreted, and responded to. This parallels the point made earlier in this report, namely, the critical need to assess how the intervention process actually works.

Additional Issues in Research Design

A number of additional findings on the impact of research design can also be derived from these three reviews. First, it should be noted that a crosscheck of the references in the three studies suggest little double-counting of studies; none of Cummings et al.'s studies was found in the other two reviews.

Unfortunately, the authors used slightly different classificatory schemes for describing the research designs. Consequently, the classification of studies as experimental, quasi-experimental, and non-experimental is not as pure as it might be when comparing results across reviews. Whereas Cummings et al.'s analysis examined individual threats, the analysis presented in Table 18 is a global summary. Two obvious points emerge. First, overall less than 40 percent of the studies possess strong research designs; that is, a design that includes pretest and post-test measures of both treatment and comparison groups. Second, performance measures are associated with stronger research designs.

These findings receive additional support from other areas of evaluation research dealing with organizational change and innovation. Yin et al. (1977), in an analysis of some 140 case studies, had adequate research designs. An earlier study (four in Yin & Yates, 1975) of some 240 case studies of organizational decentralization efforts that only 12 percent of the studies had adequate research designs. Bernstein & Freeman (1975), Gordon & Morse (1975), and Mann (1972), found in similar reviews of evaluation projects and case studies, noted similar levels of inadequate research designs (24 percent of 236 studies; 23 percent of 93 studies; 30 percent of 600 studies).

These results suggest two possible conclusions. First, the findings of many of the research studies need to be questioned because of the weak research designs (White & Mitchell, 1976). Second, the consistent failure to use better research designs may be indicative of the difficulty researchers have in persuading clients and practitioners of the necessity for research and evaluation (Friedlander & Brown, 1974; Pate et al., 1976). A re-analysis of the data presented by Cummings et al. and Pate et al. suggests, however, that both conclusions are premature.

The first conclusion, while technically valid, may have little practical importance if the rigor of the research design does not influence the nature of the findings. Cummings et al. (1977) present their data in such a way that this possibility could be empirically checked. Table 19 summarizes the findings. For performance measures, quasi-experimental methods clearly increase the likelihood of finding positive results, while for attitude measures, experimental methods reduce the possibility of ambiguous results and increase the chance of negative results. These results suggest that rather than a blanket indictment of less rigorous research designs, quasi-experimental designs need to be assessed more carefully, while mixed results stemming from quasi- and non-experimental designs should probably be labeled as negative or zero.

TABLE 18

Distribution of Research Designs

	Experimental	Quasi-Experimental	Non-Experimental
Cummings et al.(1977)[1] (N = 58)			
• Performance measures (N = 53)	34%	51%	15%
• Attitude measures (N = 42)	31	24	45
Pate et al. (1976)[2] (N = 37)			
• Performance measures (N = 17)	53%	29%	18%
• Attitude measures (N = 37)	43	35	22
White & Mitchell (1976)[1] (N = 44)[3]			
• Attitude measures (N = 44)	25%	29%	46%

[1] Experimental indicates that pre- and post-measures exist for both treatment and comparison group(s); quasi-experimental indicates no comparison group; non-experimental indicates no pre-measure.

[2] Pate et al.'s definition is confusing: "This dimension generally refers to whether or not a comparison or control group was used." (p.392). No mention is made of pre- and post-measures.

[3] In fact, two of the 44 studies also had performance data.

Table 19 also raises some questions regarding the use of attitude measures, in that they generate proportionately far fewer positive results than performance measures under experimental conditions. Moreover, an analysis of the results by change orientation reveals that 92 percent of the results for people-oriented changes are positive, accounting for 39 percent of the positive results found for attitude measures. This, when compared to the results for performance measures (where people-oriented changes led to only 74 percent positive results and accounted for only 21 percent of the positive results), strongly suggests that attitude measure results from people-oriented changes are an artifact of the instrument (see Table 20.) The fact that no people-oriented study, experimental or otherwise, using attitude measures produced negative or zero results indicates either that such techniques are exceptionally powerful, or that the instrumentation is questionable.

This result is important, for it emphasizes the need to utilize performance measures not only because they are more relevant to the client, but also because they lead to less questionable research findings. A word of caution needs to be added, however. Table 20 also indicates that performance measures lead to higher results for task-oriented changes than do attitude measures. Here, because the change method is less related to the instrument, the possibility that what is good for performance is not so good for individual attitudes towards work, etc. cannot be dismissed. The prescription is relatively clear: Use both attitude and performance measures.

Some change methods, because of their discreteness and the amount of control the change agent can exert over the process, are more amenable to research than others. Pate et al.'s data in Table 21 illustrates the point. Laboratory techniques and other types of training programs are clearly associated with stronger research designs. Surveys by their nature tend to make it difficult to allow for comparison groups, particularly when the survey is used as a pretest and post-test and is the major feature of the change effort.

Cummings et al.'s data could not be broken down the same way. Even so some rough comparisons can be made (see Table 21). People-oriented change efforts, such as the improvement of group processes and increasing the amount of support and autonomy, are subject to more rigorous designs than either task-oriented change efforts or change efforts that encompass both task and people orientations. This holds for both performance and attitude measures, with the former producing a clear relationship.

TABLE 19

Research Design by Results

	Experimental	Quasi-Experimental	Non-Experimental
Performance Measures			
• Positive (N = 96)[1]	79% (30)[2]	91% (49)	77% (17)
• Negative/Zero (N = 18)	21 (8)	9 (5)	23 '5)
Attitude Measures			
• Positive (N = 28)[3]	64% (9)[2]	70% (7)	71% (12)
• Mixed (N = 8)	8 (1)	20 (2)	18 (5)
• Negative/Zero (N = 6)	28 (3)	10 (1)	11 (2)

[1]Multiple performance measures were available for a number of studies, and the N refers to the number of measures, not the number of cases.

[2]Number in parentheses refers to the number in the cell.

[3]The N refers to the number of cases.

TABLE 20

Results by Change Orientation

	Positive	Mixed	Negative/Zero
Performance Measures:			
• Task	87.5% (49)	0.0%	12.5% (7)
• Mix	87.0 (27)	0.0	13.0 (4)
• People	74.0 (20)	0.0	16.0 (7)
Attitude Measures:			
• Task	55.0% (11)	20.0% (4)	25.0% (5)
• Mix	60.0 (6)	20.0 (2)	20.0 (2)
• People	92.0 (11)	8.0 (1)	0.0

TABLE 21

Research Design by Change Strategy/Orientation

Change Strategy	Experimental	Quasi-Experimental	Non-Experimental
Pate et al.			
• Survey (N = 15)[1]	27%	46%	27%
• Interpersonal Process Consultation (N = 6)	33	33	33
• Training, team-building skill development (N = 17)	41	41	18
• Laboratory Design (N = 16)	50	37.5	12.5
• Job Design (N = 6)	50	17	33
Cummings et al.			
• Performance Measures			
Task (N = 26)	19% (5)	62% (16)	19% (5)
Mix (N = 13)	31 (4)	54 (7)	15 (2)
People (N = 14)	64 (5)	29 (1)	7 (2)
• Attitude Measures			
Task (N = 20)	30% (6)	25% (5)	45% (9)
Mix (N = 10)	20 (2)	20 (2)	60 (6)
People (N = 12)	42 (5)	25 (3)	33 (4)

[1]Numbers add to greater than 37 since in many instances multiple treatments were applied.

People-oriented changes, therefore, are more amenable to experimental designs. Task-oriented changes are presumably less under the control of the change agent and are less divisible for the purposes of identifying comparison groups. Finally, performance measures clearly allow a basically non-experimental change effort to be changed into a quasi-experimental design by the collection of outcome data after the event.

It seems, therefore, that the second conclusion--that researchers have difficulty persuading clients and practitioners to undertake stronger research designs--is only partially true and depends upon the change method chosen, the focus of the change effort, and the type of measures available.

Yin et al. (1977) note that the weaker the relationship between the author and the change effort the better the quality of the study, and the less successful the change effort is judged to be. Since White & Mitchell (1976) found that only 6 of the 44 studies were independent of and nonaffiliated with the subject, there is cause for concern that an over-optimistic bias may be present.

Conclusions

The foregoing analysis of empirical findings on research designs in the organizational change literature suggest:

- The standards of research design are low--less than 40 percent of reported studies have adequate designs.
- The major threats to internal validity are mortality, selection-interaction, instability, and regression. Maturation threats have received little attention.
- Few external validity threats are controlled for, particularly with respect to attitudinal findings.
- Performance measures allow stronger research designs than do attitude measures.
- The main impact of stronger research designs appears to be a reduction in ambiguous findings when attitudinal measures are used.

- Results based on attitude measures should be treated with caution when people-oriented change methods are used and where there is a strong possibility of testing-treatment interaction, as in the case of survey-guided development.

- Attitude measures for task-oriented change methods are an important source of additional findings.

- Certain change methods with well-defined starting and finishing points for the treatment, where experimenters can deal with only part of the population and have reasonable autonomy, result in stronger designs.

- If the OD literature is comparable to other change literature, the low proportion of independent evaluators is an important source of bias.

Case Study Methods: Attributes and Deficiencies

The case study method is seen by a number of theorists (Bennis, 1968; Cherns & Davis, 1975; Dunn & Swierczek, 1977; Emery, 1965; Walton, 1969) as an important if not the dominant source of new organizational intervention theory. Cook & Campbell (1976) note that the case study method is a rich source of new hypotheses. This purpose is in sharp contrast to the experimental method, which is designed to test causal hypotheses and to evaluate various change efforts (Perkins, 1977). However, the very attributes that give the experimental method its power limit its usefulness as a source of new theory. More importantly, as Friedlander & Brown (1974) note, "for consultant and client relevance, research is most useful if it provides immediate continuous feedback of the process and progress of intervention and development."

Walton (1972) suggests that the case study rather than the experimental method could serve this need:

> "The case study, if employed appropriately by applied behavioral scientists, becomes an excellent vehicle for the inductive developments of new theory - middle range theory that has both goodness of fit with the phenomenon contemplated and implications for actions." (p. 74)

It is important to identify the necessary attributes that allow the case study method to add to the development of theory and practice. For, as many advocates of the case study realize,

too much case study material is abstract, over-simplified, noncomparable, and uninformative with respect to both theory and practice as the criticized experimental method.

Walton (1972) identifies 11 criteria for the case study method:

1. Case studies must focus on the novel. Relatively more extensive treatment must be given to those questions or aspects of the situation not already understood.

2. Case study writers must be prepared to develop new concepts and hypotheses so that alternative ways of looking at the change process can be explored.

3. Concepts and hypotheses need to be well-grounded in the data. If concepts and hypotheses are generated, the reader must be in a position to understand how they were derived and hence case study writers must present in a comprehensible form as much descriptive material as possible.

4. The generality and limitations of the concepts and data must be stated. This is ultimately a matter of judgment, but the writer is often in the best situation to speculate on such limitations.

5. Findings must be related to others in the field. There is a real danger that the continual generation of new concepts and hypotheses could undermine the theory construction process unless an effort is made to ensure that case studies are cumulative.

6. Concepts and hypotheses should be integrated into emerging theoretical frameworks. Rather than challenging existing hypotheses and concepts, new concepts should be used to elaborate and enrich existing frameworks where appropriate.

7. The data contained in the case study must be sufficiently detailed that others can apply different concepts and test alternative hypotheses.

8. Case studies of failure as well as successful interventions must be developed. Selective reporting is damaging to the viability of case-based theory because of changes of subjectivity and bias, and because of the inherent limitations of a theory when part of the relevant data base is ignored.

9. Case studies, if they are to add to what can be obtained from experimental studies, must provide longitudinal data. The obtrusiveness of many experimental measures limits their

practicality for longitudinal assessment. Case study writers must develop alternative, non-obtrusive data collection techniques that allow the change process to be monitored in its entirety.

10. Case studies must describe as rigorously as possible the process aspects of a change effort. Experimental methods are ideally suited for examining input-output relationships, but are generally too demanding to used for analyzing process issues.

11. Case studies can make their greatest contribution by conceptualizing and theorizing about the change process, where more rigorous and structured of methods are inappropriate.

These criteria are demanding and few published case studies even approach meeting them. Journal articles seldom go beyond anecdotal descriptions or verbal accounts of quasi-experiments. Exceptions do exist particularly among book length case studies (Argyris, 1962, 1974, 1977; Guest, 1962; Jaques, 1952; Sofer, 1961; Whyte & Hamilton, 1964). This is partly a result of the amount of information which must be processed, if the last three of Walton's criteria are to be met. Walton does not specify how case study data are best collected to meet his criteria. Friedlander and Brown (1974), for example, argue that data collection techniques associated with existing case study methods frequently run counter to the goals, values, and procedures used in change efforts. It is also questionable whether practitioners have the motivation, material resources, and academic skills necessary to meet Walton's criteria.

The dilemma of who case studies should be written for is also not addressed (Berkowitz, 1969; Friedlander & Brown, 1974). Practitioners, for example, may be less concerned with integrated theoretical frameworks than with prescriptions for action, while clients are primarily concerned with what works best. Walton's criteria meet the needs of theorists but not those of practitioners or clients. Walton does, however, note three additional criteria for case studies developed as teaching and training material. "The reader of a written case study can be provided a vicarious experience upon which meaningful learning-- insight and generalization--can be based."

The criteria that allow such learning include:

- the reader must be able to identify with persons in the case;
- the case must capture the affective mood and dynamic properties of the situation; and
- the case should separate description from conceptualization and generalization.

These criteria underlie the classic pedogogic technique developed at the Harvard Business School (McNair, 1954).

A number of commentators (Dunn & Swierczek, 1977; Emery, 1975) argue that case studies, when aggregated across settings on the basis of systematic content analysis and scoring of the case data, provide a valid basis for theorizing and developing practical prescriptions. The case method permits control of threats to internal and external validity where findings can be shown to hold across cases controlling for specific threats (Cummings et al., 1977; Dunn & Swierczek, 1977). While controlled case approaches can meet many of the threats to internal and external validity, construct validity may require the development of case studies that are richer and more variable in their descriptions of process. Cherns & Davis (1975) note in their discussion of how case studies are currently used:

> "Even more serious is the belief that one can somehow align case studies into scientific matrix by the wizardry of evaluation. By applying the same set of 'before and after' measures in a series of case studies, one can obtain data sufficiently susceptible to statistical manipulation to confer scientific status upon it. Degraded simple data are thus preferred to the rich complex material of the case study. But this route is a great temptation to those who wish to force the pace of application of knowledge; the danger is that the knowledge they end up applying may be trivial." (p. 20-21)

This review suggests that aggregative methods and the structured scoring keys generated from content analyses (see, for example, Appendix A), can provide important insights into the change process.

Limitations Confronting Practitioners and Researchers

Some practical limitations facing consultants and researchers have already been mentioned. This section will summarize a number of limitations, mentioned in the literature, that must be borne in mind when considering alternative research methods and designs.

Client Cooperation in Research

Regardless of the research method, many clients are unwilling to act as "guinea pigs" or as potential advertisements for a

consultant's skills. Confidentiality concerns and the primacy of action goals may make the client reluctant to engage in what for him is a non-essential activity (Berkowitz, 1969; Dubin, 1976). Only the most prestigious of change agents can make subsequent publication a condition of involvement (Argyris, 1974). This difficulty becomes magnified when an experimental design is sought because it entails differential treatment of parts of the client system and a surrendering of considerable control to the researcher (Cook & Campbell, 1976; Perkins, 1977).

Finally, Van der Vall et al.'s (1976) findings suggest that interventions designed around experimental research may not be as effective from the client's perspective. This adds substance to many client concerns about research.

Impact of Extraneous Variables

This is particularly relevant in experimental designs, where the field setting makes it difficult to control for exogenous variables that either contaminate the treatment (e.g., turnover of subjects or experimenters, an informed control group) or are sources of competing explanations for any subsequent change.

Skills of Change Agents

The previous descriptions of the experimental and case study methods clearly make considerable demands on the research skills of change agents. Many consultants rely upon interpersonal skills, and see research chiefly in terms of a source of new heuristic devices, diagnostic procedures, and other techniques (Berkowitz, 1969). There are, however, some dilemmas associated with a profession and a research field that are so heavily practice-oriented, where practitioners are a major source of data but many have poor research skills (Pate et al., 1976).

Researchers face a different problem. Simply being a change agent demands certain skills and it is important, therefore, to ensure that research-oriented practitioners and pure researchers are not atypical in terms of the change agent skills they possess.

Values and Goals of Change Agents

Existing experimental methods, with their strong emphasis upon control, deception, and purposeful rationality (Argyris, 1970; Walton & Warwick, 1973), run counter to the norms associated with the dominant organizational change strategies. The case study method places less emphasis on these norms, but they could still exist. This dilemma is particularly salient among

researcher/consultants, for as Friedlander & Brown (1974) note: "(they) serve two client systems whose requirements and criteria for evaluation are at least superficially incompatible... reputation with one client system may be purchased at the cost of reputation with the other" (p. 319).

Berkowitz's (1969) analysis of Zand et al.'s (1969) study of a change effort provides an excellent illustration of the problems facing researchers in simply reporting their findings.

Resource Demands of Research

Research, regardless of the method, is time consuming. Many change agents face market and organizational pressures which limit their resources for doing research. Paradoxically, the better external researchers may be able to do more research, while the better internal researchers will be subject to greater organizational demands for service that must be met.

Observer Bias

A persistent problem is the quality of the data and research findings actually produced. Practitioners may be reluctant to publish their failures (Strauss, 1976), while academic-based consultants, in addition, may be tempted to publish undigested material or to utilize academically accepted but inappropriate research designs in order to maintain their academic status (Pate et al., 1976).

These concerns must be considered in developing a research design. The design proposed below pays particular attention to the resource demands of the research and the skills of the change agent.

Summary

The preceding sections provide a brief overview of the methodological issues in organizational intervention research. Three points deserve special emphasis. Multi-method data collection and research design approaches are needed to study the range of variables present in organizational interventions. Multiple methods not only allow diverse purposes to be met but also, where the methods collect data on the same events, strengthen the overall research design (Campbell & Fiske, 1959). As Berkowitz (1969) notes: "Different purposes suggest different design requirements, different types of measures and criteria for

assessing these measures, different analysis procedures and foci for interpretation."

Second, special emphasis needs to be placed on the intervention process itself. This review has repeatedly emphasized the need to go beyond a simple treatment-outcome model that is the hallmark of well-designed experiments.

Walton (1972) points out that the experimental method has a crucial weakness that limits its relevance for examining the change process:

> "The reason we require 'control groups' in experimental science is that the processes presumably go on in the famous 'black box.' So we cannot observe the significant middle state of 'through-put.' We can only ascertain the input and measure the output. But where it is possible to observe the through-put--the process--then the need for the crude experimental model is by-passed." (p. 231)

The "black box" exists not so much from the predilections of experimental researchers but from the demands for rigor, as reflected in the need to control for the threats to validity outlined above. Argyris (1970) observes that these threats are far more salient within the change process.

Friedlander & Brown (1974) note:

> "Thus far (research) has utilized its techniques primarily for evaluation and validation, and its current techniques are well adapted to this. Thus far it has chosen to play a relatively uninvolved and distant role in the change practice situation. Thus far it has focused on producing data for research needs rather than practice needs. As a result we have a theory from an external research perspective only. We have generally failed to produce a theory of change which emerges from the change process itself."

This deficiency is not simply a matter of technique, but also an issue of the purposes and functions that research has so far been asked to serve both by researchers and by the sponsors of research (Argyris, 1976). A model that recognizes the central role of the change process as defined by the change agent's and the client's behavior requires that the functions and purposes of existing research efforts be reassessed.

The limitations of the experimental method as a source of theory and practical understanding, and as an appropriate method

for examining process in field settings, are strong recommendations for the development of alternative research techniques. There remains a great need for experimental and quasi-experimental designs, particularly where general evaluations of method and outcomes are required but generation of change theory, change techniques, and change practice alternatives are likely to require other more qualitative methods.

The case study technique offers an opportunity to generate more diverse, more detailed, and more grounded data that can be continuously collected during a change effort and aggregated across change efforts. It is also a technique that is particularly well suited to examining the intervention process as opposed to the assessment of the overall effectiveness of the change process.

Finally, the constraints of the situation and the skills and resources of change agents must be considered in both assessing past research endeavors and in designing new research techniques.

Data Collection Strategy

The field research phase of the present project will collect data and develop case studies of organizational effectiveness interventions at eight Army installations. This research has two objectives. The first is to develop case studies which document the application of Organizational Effectiveness (OE) methods in operating Army units: These cases will be suitable for use in Organizational Effectiveness Staff Officer (OESO) training programs and interested parties with representative examples of the Army's OE effort. The second objective is to observe as many as possible of the variables described in the literature review taxonomy:

- OESO change agent characteristics, competencies, and roles;
- client command characteristics and problems;
- OE intervention methods and processes; and
- intervention outcomes.

These observations will be used to simplify and validate the taxonomy. The third objective is to develop, on the basis of methods observed in case studies to be most effective with client systems, a set of prescriptive guidelines for implementation of OE interventions in the Army.

Three data collection methods are proposed for use with each intervention to be studied: (1) behavioral event interviews with OESO change agents and at least one client representative, preferably the sponsor of the intervention effort; (2) structured interviews with the OESO(s) and the client representative(s); and (3) completion of a Case Analysis Observation Form by the external observer/researcher. It is presently planned that data will be collected using each method at three points in time: an initial observation at the beginning of the pretest intervention; a second observation approximately five to six months later; and a final observation ten to twelve months later (the post-test observation). Table 22 illustrates the intervention variable data collected by each method. This research design meets three criteria. First, it allows both an evaluation of the overall effectiveness of the intervention and an opportunity to examine the intervention process. Second, it permits aggregating and comparison of data across different cases and settings. Finally, the design does not make excessive demands of either the change agent(s) or the client system.

Behavioral Event Interviews

Each OESO and client representative will be interviewed using a structured behavioral event interviewing technique developed by McClelland (1975). Similar to the critical incident and behavioral scaling methods developed by Flanagan (1954), Smith & Kendall (1963), and Dunnette and his associates (Dunnette, 1976; Borman, Dunnette & Johnson, 1974), the behavioral event method asks respondents to identify the most important success and failure experiences they had during the course of the intervention. Subjects will be asked to describe in considerable detail for each incident:

- the situation they encountered, and what led up to it;
- who was involved;
- what the subject felt, wanted, or intended in responding to the situation;
- what the respondent actually did in responding to the situation; and
- the outcome or results of this action.

This information will permit reconstruction of respondents' motives, attitudes, and behaviors in critical intervention situations.

TABLE 22

Data Collection Method Proposed for Each Intervention Variable

Data Collection Method	Intervention Variable				
	OESO Change Agent	Command Client	OE Intervention	Outcomes	
1. Behavioral Event Interviews: a) OESO b) Client Sponsor	• competency • role(s)	• problem • recipient characteristics	• espoused method • process	• espoused outcomes	RESPONDENT DATA
2. Structured Interviews: a) OESO b) Client Sponsor	• characteristics	• system characteristics • problem • recipient characteristics	• espoused method • process	• espoused outcomes	OBSERVER DATA
3. Case Analysis Observation Form	• characteristics	• system characteristics • recipient characteristics	• method • process	• pre/post outcome measures (objective)	

Subjects' interviews will be transcribed and examined using the hypothesis generation techniques described by McClelland (1958) to develop empirical coding systems for the analysis of thematic material. This procedure, used to identify the competencies of effective internal military consultants in a recent study (McClelland, 1975), consists of the following steps:

1. Two or more researchers independently examine the interview transcripts of success and failure incidents to identify distinguishable individual characteristics, skills, and behaviors which appear to be associated with intervention success.

2. These researchers then compare their perceptions of identifiable characteristics existing in the data and agree on a tentative coding system for recognizing or scoring these characteristics.

3. Researchers code the original small sample of interview transcripts, using the scoring categories agreed upon in Step 2, and compare their scores to see if the categories selected can be reliably identified and if they in fact discriminate successful from unsuccessful intervention incidents. This process is continued until the researchers are confident that they have identified all important elements in the data and that these categories can be recognized with acceptable interrater reliability.

As indicated in Table 22, behavioral event interview data will provide information about change agent competencies and roles, client (espoused) problems and recipient characteristics, espoused methods and actual process elements, and espoused outcomes. (Problems, method labels, and outcomes espoused by respondents will be checked by researcher observations using the Case Analysis Observation Form.)

The behavioral event method has several advantages. First, it produces quantitative data which can be used in standard statistical tests of hypotheses. Second, it elicits operant responses which eliminate the biases inherent in structured interview protocols. For example, in a behavioral event interview, a subject may volunteer that his motive was to convince a client, or that he initiated marketing activities to expand the client base of an OE program. These responses can be scored for power and achievement motivation, possible consultant competencies. A structured interview protocol which asks respondents, "How did you contact the client?" can lead or bias the subject's response, producing spurious data. Third, the behavioral event method elicits underlying causal personality characteristics which may be important to subject performance (e.g., motivation, cognitive style in problem-solving, chronic positive expectations of others, and similar personality variables) and which are not

elicited by structured methods. Finally, by focusing on a subject's most critical (and memorable) experiences, the method provides a wealth of rich, behaviorally specific anecdotal data for the development of face valid cases, role plays, and other learning materials.

Behavioral event interviews with both the OESO change agent(s) and the client(s) involved in an intervention will provide two critical perspectives on the process which can be used to validate one another and/or identify differences in perception which may prove informative in discerning why interventions succeed or fail. For example, a change agent may report that he was successful in understanding his client's problem, while the client reports that the intervention was unsatisfactory because the change agent focused on his own agenda and failed to deal with the issue most salient to the client.

Collection of b[illegible]ioral event data from internal Army consultants will also [illegible]it a limited cross-validation study using similar data collected on Navy internal consultants (McClelland, 1975) to draw conclusions about the characteristics, competencies, and roles of effective military consultants.

Structured Interviews

Immediately following the behavioral event interview, a structured interview protocol will be used to discuss with each OESO and client representative the intervention to be studied. Where the behavioral event interview is used to collect operant data in an open-ended way, the structured interview will be used to collect specific information about change agent and client characteristics, and details about each step in the intervention process. Sample inquiry protocols for change agent and client representative structured interviews are provided in Appendix B.[3] It will be noted that these protocols parallel one another (i.e., the OESO and the client representative will be asked essentially the same questions about key variables in each phase of the intervention process). These data can similarly be used to assess the degree of congruence or differences in perception between change agent and client at critical points in the process.

As illustrated in Table 22, the structured interview will collect data about change agent characteristics, client system,

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[3] The authors anticipate that the sample Structured Interview protocols and Case Analysis Observation Form will be modified as a result of consultation with ARI personnel and field experience with these instruments.

problem and recipient variables, espoused method and actual process elements, and espoused outcomes.

Case Analysis Observation Form

For each intervention studied, the external researcher/observer will complete a Case Analysis Observation Form on the basis of interview data, direct observation at the site of each intervention, and objective data available on the effectiveness of the client organization (e.g., IG, ARTEP, or other inspection scores, and retention rates, climate survey data, or other measures of unit satisfaction). A sample Case Analysis Observation Form is presented in Appendix C.[4] As illustrated in Table 22, the Case Analysis Observation Form will collect data on change agent characteristics, client system and recipient characteristics, intervention method and process variables (as observed by the researcher), and objective outcome data.

[4] Ibid.

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APPENDIX A

Case Study of Planned Organizational Change
(W. N. Dunn, University of Pittsburgh, 1977)

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CASE SURVEY OF PLANNED ORGANIZATIONAL CHANGE

Case Analysis Form

Coding Date _____

First Coder _____

Second Coder _____

Judge _____

Case Citation _____

_____

_____

Case I.D. (leave blank) [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] . (00/1)

Part I. ENVIRONMENT: This part of the case analysis form deals with the internal and external environment of organizations or subunits which are the focus of change efforts. Environment refers to characteristics present before the introduction of planned change efforts.

1. Country (write name only) _____ [ ] [ ] [ ] (1-3)

2. World Region (do not code) [ ] [ ] (4-5)

3. Period of Change
   [0] 1946-1950
   [1] 1951-1955
   [2] 1956-1960
   [3] 1961-1965 (6)
   [4] 1966-1970
   [5] 1971-1975
   [6] 1976-1980
   [9] Insufficient information

4. Organization Type
   [0] Economic (e.g. industrial and manufacturing firms, retail establishments, insurance companies, and banks providing goods and services to buyers for money or payment in kind)
   [1] Service (e.g. hospitals, schools, voluntary agencies, and clinics providing services to clients without direct monetary payment or payment in kind)
   [2] Commonweal (e.g. national, state, and local government departments, agencies, bureaus, and offices providing services to the public-at-large without direct monetary payment or payment in kind)

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[3] Mutual benefit (e.g. political parties, unions, veterans' organizations, fraternal orders, professional associations, churches, and clubs providing members with opportunities for social interaction, mutual support, and symbolic identification without direct monetary payment) (7)
[9] Insufficient information

5. Size of Organi-ation or Subunit on which Change is Focused
[0] Very small (less than 30 employees)
[1] Small (30-149 employees)
[2] Moderate (150-499 employees) (8)
[3] Large (500-999 employees)
[4] Very large (more than 1,000 employees)
[9] Insufficient information

6. Automation of Equipment
[0] Very high (equipment permits automatic control of both routine and non-routine operations)
[1] High (equipment permits automatic control of most routine operations)
[2] Moderate (equipment permits automatic control of some routine operations) (9)
[3] Low (equipment permits automatic control of very few routine operations)
[4] None (equipment permits only manual control of routine operations)
[9] Insufficient information

7. Task Environment Complexity
[0] Very complex (exchanges with a very large number of different customers, competitors, suppliers, clients, or regulatory groups)
[1] Moderately complex (exchanges with several different customers, competitors, suppliers, clients, or regulatory groups) (10)
[2] Complex (exchanges with one or two different customers, competitors, suppliers, clients, or regulatory groups)
[9] Insufficient information

8. Task Environment Dependence
[0] High (organization or subunit has great need for resources or performance of single customers, competitors, suppliers, clients, or regulatory groups)
[1] Moderate (organization or subunit has moderate need for resources or performance of several alternative customers, competitors, suppliers, clients, or regulatory groups) (11)
[2] Low (organization or subunit has low need for resources or performance of many alternative customers, competitors, suppliers, clients, or regulatory groups)
[9] Insufficient information

9. Task Environment Regularity
   [0] Highly regular (exchanges of resources or performance with customers, competitors, suppliers, clients, or regulatory groups never interrupted throughout the year)
   [1] Regular (exchanges of resources or performance seldom interrupted throughout the year)
   [2] Irregular (exchanges of resources of performance frequently interrupted throughout the year)
   [3] Highly irregular (exchanges of resources or performance are continuously interrupted throughout the year) (12)
   [9] Insufficient information

10. Task Environment Predictability
   [0] High (exchanges of resources or performance with customers, competitors, suppliers, clients, or regulatory groups nearly always predicted with certainty)
   [1] Moderate (exchanges of resources or performance often predicted with certainty) (13)
   [2] Low (exchanges of resources or performance seldom predicted with certainty)
   [9] Insufficient information

11. Superiors' Confidence in Subordinates
   [0] None (subordinates viewed as incapable of accomplishing tasks independently)
   [1] Low (subordinates viewed as capable of accomplishing a few routine tasks independently)
   [2] Moderate (subordinates viewed as capable of accomplishing most routine tasks independently) (14)
   [3] High (subordinates viewed as capable of accomplishing most routine and many unexpected tasks independently)
   [4] Complete (subordinates viewed as capable of accomplishing all routine and unexpected tasks independently)
   [9] Insufficient information

12. Predominant Source of Motivation to Perform Tasks
   [0] Coercion (fear, threats, and punishment)
   [1] Coercion and remuneration (punishment and monetary rewards)
   [2] Remuneration and involvement (monetary rewards and participation in decisions) (15)
   [3] Involvement (participation in decisions)
   [9] Insufficient information

13. Superiors' Knowledge of Subordinates' Work Problems
   [0] No knowledge
   [1] Little knowledge
   [2] Moderate knowledge (16)
   [3] Great knowledge
   [9] Insufficient information

14. Subordinates' Participation in Decisions Affecting Their Work
    [0] None (never consulted before decisions are made by superiors)
    [1] Low (sometimes consulted before decisions are made by superiors)
    [2] Moderate (occasionally consulted before decisions are made by superiors) (17)
    [3] High (always consulted before decisions are made by superiors)
    [9] Insufficient information

15. Resistance to Organizational Goals
    [0] Strong resistance (frequent strikes, slowdowns, stoppages, excessive sickdays)
    [1] Moderate resistance (occasional strikes, slowdowns, stoppages, excessive sickdays) (18)
    [2] Weak resistance (infrequent strikes, slowdowns, stoppages, excessive sickdays)
    [3] No resistance (no strikes, slowdowns, stoppages, excessive sickdays)
    [9] Insufficient information

. Part II. ACTORS: This part of the case analysis form deals with the principal actors engaged in the change effort. Actors include change agents (i.e. consultants who plan, organize, and manage change), change sponsors (i.e. clients who request assistance), and change targets (i.e. groups which the change effort is designed to affect). Roles of change agents, change sponsors, and change targets are mutually exclusive for purposes of analysis.

16. Change Agent Composition
    [0] Individual
    [1] Group (19)
    [2] Organization or Subunit
    [3] Combination (two or more categories above)
    [9] Insufficient information

17. Change Agent Dependence on Sponsor
    [0] Dependent/organizational affiliate
    [1] Dependent/non-affiliate
    [2] Independent/organizational affiliate (20)
    [3] Independent/non-affiliate
    [4] Mixed (two or more categories above)
    [9] Insufficient information

18. Change Agent Sociocultural Identity
    [0] Exogenous to dominant sociocultural system (21)
    [1] Endogenous to dominant sociocultural system
    [9] Insufficient information

19. Change Agent Values

	Present	Absent	Insufficient Information
a. Efficiency	[0]	[1]	[9]
b. Productivity	[0]	[1]	[9]
c. Problem-solving	[0]	[1]	[9]
d. Social responsibility	[0]	[1]	[9]
e. Power-sharing	[0]	[1]	[9]
f. Job satisfaction	[0]	[1]	[9]
g. Self-actualization	[0]	[1]	[9]
h. Conflict resolution	[0]	[1]	[9]
i. Income-sharing	[0]	[1]	[9]
j. Interpersonal trust	[0]	[1]	[9]
k. Open communications	[0]	[1]	[9]
l. Sensitivity to others	[0]	[1]	[9]

(22-33)

20. Change Agent Organizational Identity
[ ] [ ] (enter code)

	TM	MM	LM	ST	SUB	EC
Top Management	01	02	03	04	05	06
Middle Management		07	08	09	10	11
Line Management			12	13	14	15
Staff				16	17	18
Subordinates					19	20
External Consultant						21
Insufficient Information						22

(34-35)

21. Change Agent Functional Identity
[ ] [ ] (enter code)

	P/A	P/T	F	R/D	EC
Planning/Administration	01	02	03	04	05
Personnel/Training		06	07	08	09
Finance			10	11	12
Research/Development				13	14
External Consultant					15
Insufficient Information					16

(36-37)

22. Change Sponsor Composition 6

[0] Individual
[1] Group
[2] Organizational subunit (38)
[3] Combination (two or more categories)
[9] Insufficient information

23. Change Sponsor Values

	Present	Absent	Insufficient Information	
a. Efficiency	[0]	[1]	[9]	
b. Productivity	[0]	[1]	[9]	
c. Problem-solving	[0]	[1]	[9]	
d. Social responsibility	[0]	[1]	[9]	
e. Power-sharing	[0]	[1]	[9]	
f. Job satisfaction	[0]	[1]	[9]	(39-50)
g. Self-actualizatio	[0]	[1]	[9]	
h. Conflict resoluti	[0]	[1]	[9]	
i. Income-sharing	[0]	[1]	[9]	
j. Interpersonal trust	[0]	[1]	[9]	
k. Open communications	[0]	[1]	[9]	
l. Sensitivity to others	[0]	[1]	[9]	

24. Change Sponsor Organizational Identity
[ ] [ ] (enter code from item 20) (51-52)

25. Change Sponsor Functional Identity
[ ] [ ] (enter code from item 21) (53-54)

26. Change Target Composition

[0] Individual
[1] Group
[2] Organizational subunit (55)
[3] Entire organization
[9] Insufficient information

27. Change Target Values

	Present	Absent	Insufficient Information	
a. Efficiency	[0]	[1]	[9]	
b. Productivity	[0]	[1]	[9]	
c. Problem-solving	[0]	[1]	[9]	
d. Social responsibility	[0]	[1]	[9]	
e. Power-sharing	[0]	[1]	[9]	
f. Job satisfaction	[0]	[1]	[9]	(56-67)
g. Self-actualization	[0]	[1]	[9]	
h. Conflict resolutions	[0]	[1]	[9]	
i. Income-sharing	[0]	[1]	[9]	
j. Interpersonal trust	[0]	[1]	[9]	
k. Open communications	[0]	[1]	[9]	
l. Sensitivity to others	[0]	[1]	[9]	

28. Change Target Organizational Identity
[ ] [ ] (enter code)

	TM	MM	LM	ST	SUB
Top Management	01	02	03	04	05
Middle Management		06	07	08	09
Line Management			10	11	12
Staff				13	14
Subordinates					15
More Than 3 Levels					16
Entire Organization					17
Insufficient Information					18

(68-69)
(70/1)

29. Change Target Functional Identity
[ ] [ ] (enter code)

	P/A	P/T	FIN	R/D
Planning/Administration	01	02	03	04
Personnel/Training		05	06	07
Finance			08	09
Research/Development				10
More Than 3 Functions				11
Entire Organization				12
Insufficient Information				13

(00/2)
(71-72)

Part III. APPROACH: This part of the case analysis form deals with broad strategies and specific tactics employed by change agents to plan, organize, and implement change efforts. Only those terms explicitly used in the text should be used as a basis for coding strategies and tactics.

30. Change Strategy
[ ] [ ] (enter one code only) (73-74)

01	Action Research
02	Behavior Modification
03	Conflict Resolution
04	Contingency (Theory) Design
05	Diffusion of Innovations
06	Technology (GIST) and Group Integration, Structure
07	Human Relations
08	Industrial Democracy
09	Institution Building
10	Knowledge Utilization
11	Organization Design
12	Organization Development
13	Participative Management
14	Planned Organizational Change
15	Self-Management
16	Socioorganizational Design
17	Sociotechnical Design
18	System 4
19	Work Design
20	Work Humanization
21	Quality of Working Life
22	Other
99	Insufficient Information

31. Number of Change Tactics Used
[ ] [ ] (enter sum of tactics from list below) (75-76)

01	Job Redesign	27	Sociotherapy
02	Job Enlargement	28	Survey Feedback
03	Job Enrichment	29	Task Enrichment
04	Job Rotation	30	Task Group Therapy
05	Work Simplification	31	Team-Building
06	Work Measurement	32	T-Groups
07	Leadership/Style Change	33	Incentive Systems
08	Management by Objectives (MBO)	34	Profit Sharing
09	Flexitime	35	Scanlon Plan
10	Work Scheduling	36	Productivity Bargaining
11	Performance Evaluation	37	Positive Reinforcement
12	Climate Change	38	Non-material Incentives
13	Transactional (Analysis) Design	39	EEO-Affirmative Action
14	Autonomous (Task) Groups	40	Feedback Communications Systems
15	Confrontation Meetings	41	Reorganization
16	Encounter Groups	42	Consolidation
17	Group Feedback	43	Decentralization/Devolution
18	Group Problem-solving	44	PPBS
19	Process Consultation	45	Performance Budgeting
20	Laboratory Training	46	Performance Auditing
21	Management Information (Systems) Design	47	Systems Analysis
22	Managerial Grid	48	Operations Research
23	Multivariate Analysis, Participation, and Structure (MAPS)	49	PERT
24	Matrix (Organization) Design	50	Manpower Information Systems Design
25	Power Training	51	Cost-Benefit Analysis
26	Sensitivity Training	52	Human Resources Accounting
		53	Manpower Planning
		54	Other
		99	Insufficient Information

32. Actual Tactics Used (enter codes above)

a. [ ] [ ]
b. [ ] [ ]
c. [ ] [ ]
d. [ ] [ ]
e. [ ] [ ] (77-96)
f. [ ] [ ]
g. [ ] [ ]
h. [ ] [ ]
i. [ ] [ ]
j. [ ] [ ]

33. Dominant Approach (do not code) (97-98)
[ ] [ ]

34. Approach Consistency (do not code) (99-100)
[ ] [ ]

Part IV. PROBLEMS: This part of the case analysis form deals with the ways that problems which the change effort is intended to resolve are perceived, defined, and classified. Problems are of four main types: conceptual (attitudes, feelings, values) behavioral (interaction, communication, involvement), technical (tools, implements, machine processes, and rules for controlling the performance of work tasks and operations), and structural (organization of formal roles and positions of authority). Problems of different types are also coded according to their organizational level, sphere, time-span, urgency, origin, and the confidence of actors that they will be resolved.

35. Change Agent Problem Classification
a. [ ] [ ] (enter code for primary problem) (101-102)
b. [ ] [ ] (enter code for secondary problem) (103-104)

	Conceptual	Behavioral	Technical	Structural	Combination
Top Management	01	02	03	04	05
Middle Management	06	07	08	09	10
Line Management	11	12	13	14	15
Staff	16	17	18	19	20
Subordinates	21	22	23	24	25
Two Levels	26	27	28	29	30
Three or More Levels	31	32	33	34	35
Insufficient Information					36

36. Change Sponsor Problem Classification
    a. [ ] [ ] (enter code for primary problem) (105-106)
    b. [ ] [ ] (enter code for secondary problem) (107-108)

37. Change Target Problem Classification
    a. [ ] [ ] (enter code for primary problem) (109-110)
    b. [ ] [ ] (enter code for secondary problem) (111-112)

38. Time-span of Sponsor's Problem
    [0] Long-range (6-20 years)
    [1] Medium-range (2-5 years) (113)
    [2] Short-range (less than 2 years)
    [9] Insufficient information

39. Sphere of Sponsor's Problem
    [0] Major policies (codes of ethics, social responsibility, professional conduct, choice of products and services)
    [1] Secondary policies (types of clients, target areas, key consumers)
    [2] Functional policies (production, public relations, marketing, finance, personnel, accounting (114)
    [3] Minor policies (maintenance, operating expenses, upkeep)
    [4] Standard operating procedures (receipts of equipment and supplies, inventory control, processing complaints)
    [5] Rules (use of facilities and equipment, working hours, recreation at work)
    [9] Insufficient information

40. Perceived Urgency of Problem

	Urgent	Important	Routine	Insufficient Information	
a. Change Agent	[0]	[1]	[2]	[9]	(115-117)
b. Change Sponsor	[0]	[1]	[2]	[9]	
c. Change Target	[0]	[1]	[2]	[9]	

41. Expectations of Problem Resolution

	Highly Confident	Confident	Uncertain	Insufficient Information	
a. Change Agent	[0]	[1]	[2]	[9]	(118-120)
b. Change Sponsor	[0]	[1]	[2]	[9]	
c. Change Target	[0]	[1]	[2]	[9]	

42. Origin of Problem Acted Upon
[0] External to organization or subunit
[1] Internal to organization or subunit
[9] Insufficient information (121)

43. Problem Congruence (do not code)
a. Classification [ ]
b. Urgency [ ]
c. Expectations [ ] (122-124)

Part V. INTERACTIONS: This part of the case analysis form deals with processes whereby change agents, change sponsors, and change targets interact one with another in the several phases of the change effort. Characteristics of interaction processes include degree and style of involvement, adaptability of actors, adequacy of resources, feasibility, and the diffusion and utilization of change agent knowledge.

44. Involvement in Problem Definition (the power or influence of actors in defining conditions believed to inhibit the satisfaction of perceived needs or values)

	Makes Decisions	Influences Decisions	No Influence	Insufficient Information	
a. Change Agent	[0]	[1]	[2]	[9]	(125-127)
b. Change Sponsor	[0]	[1]	[2]	[9]	
c. Change Target	[0]	[1]	[2]	[9]	

45. Involvement in Goal-Setting (the power or influence of actors in specifying the goals of the change effort)

	Makes Decisions	Influences Decisions	No Influence	Insufficient Information	
a. Change Agent	[0]	[1]	[2]	[9]	(128-130)
b. Change Sponsor	[0]	[1]	[2]	[9]	
c. Change Target	[0]	[1]	[2]	[9]	

46. Involvement in Choosing Approach (the power or influence of actors in selecting appropriate strategies and tactics of change)

	Makes Decisions	Influences Decisions	No Influence	Insufficient Information	
a. Change Agent	[0]	[1]	[2]	[9]	(131-133)
b. Change Sponsor	[0]	[1]	[2]	[9]	
c. Change Target	[0]	[1]	[2]	[9]	

47. Involvement in Implementing Approach (the power or influence of actors in carrying out strategic and tactical activities)

	Makes Decisions	Influences Decisions	No Influence	Insufficient Information	
a. Change Agent	[0]	[1]	[2]	[9]	
b. Change Sponsor	[0]	[1]	[2]	[9]	(134-136)
c. Change Target	[0]	[1]	[2]	[9]	

48. Involvement in Evaluating Approach (the power or influence of actors in applying benefit and cost criteria to assess outcomes of change) (137-138/9) (140/2) (00/3)

	Makes Decisions	Influences Decisions	No Influence	Insufficient Information	
a. Change Agent	[0]	[1]	[2]	[9]	
b. Change Sponsor	[0]	[1]	[2]	[9]	(1-3)
c. Change Target	[0]	[1]	[2]	[9]	

49. Style of Change Agent Involvement (the relationship between the change agent and other actors in making decisions in the several phases of the change effort)

	Unilaterally Decides	Delegates Decisions	Collaborates on Decisions	Insufficient Information	
a. Problem definition	[0]	[1]	[2]	[9]	
b. Goal-setting	[0]	[1]	[2]	[9]	(4-8)
c. Choosing approach	[0]	[1]	[2]	[9]	
d. Implementing approach	[0]	[1]	[2]	[9]	
e. Evaluating approach	[0]	[1]	[2]	[9]	

50. Adaptation of Actors (the extent to which problems, goals, strategies, and tactics are changed as a result of new experience)

	Frequent Changes	Occasional Changes	No Changes	Insufficient Information	
a. Problems	[0]	[1]	[2]	[9]	
b. Goals	[0]	[1]	[2]	[9]	(9-11)
c. Approach	[0]	[1]	[2]	[9]	

51. Index of Total Adaptation
[ ] [ ] (do not code)

52. Adequacy of Change Resources (the extent to which personnel, equipment, and finances are adequate for engaging in activities in each phase)

	Totally Adequate	Mostly Adequate	Not Adequate	Insufficient Information	
a. Problem definition	[0]	[1]	[2]	[9]	
b. Goal-setting	[0]	[1]	[2]	[9]	(12-16)
c. Choosing approach	[0]	[1]	[2]	[9]	
d. Implementing approach	[0]	[1]	[2]	[9]	
e. Evaluation approach	[0]	[1]	[2]	[9]	

53. Overall Utilization of Change Agent Knowledge (the degree to which sponsor acts on information, skills, and judgments provided by the change agent in the several phases of the change effort)

	High	Moderate	Low	None	Insufficient Information	
a. Problem-definition	[0]	[1]	[2]	[3]	[9]	
b. Goal-setting	[0]	[1]	[2]	[3]	[9]	(17-21)
c. Choosing approach	[0]	[1]	[2]	[3]	[9]	
d. Implementation	[0]	[1]	[2]	[3]	[9]	
e. Evaluation	[0]	[1]	[2]	[3]	[9]	

54. Dominant Channel of Diffusion of Change/Agent Knowledge (22)
- [0] Format written information/unidirectional with no feedback
- [1] Format written information/interactive with feedback
- [2] Verbally communicated information/unidirectional with no feedback
- [3] Verbally communicated information/interactive with feedback
- [9] Insufficient information

55. Independent Outside Evaluator of Change Effort (23)
- [0] Present
- [1] Absent
- [9] Insufficient information

Part VI. RESULTS: This part of the case analysis form deals with the assessment of outcomes of change by actors. Outcomes of change include the adoption of the approach to change, the perceived effectiveness of the approach, the perceived resolution of problems, and the presence of unanticipated consequences associated with the change effort.

56. Approach Adoption (the degree to which strategies and tactics are modified and institutionalized)
    [0] Fully institutionalized without approach modification (strategies and tactics acquire full value, permanence, and longevity without efforts to adopt them to the organizational context)
    [1] Fully institutionalized with approach modification (strategies and tactics acquire full value, permanence, and longevity after they are adapted to the organizational context) (24)
    [2] Partially institutionalized without approach modification (strategies and tactics acquire less than complete value, permanence, and longevity without efforts to adapt them to the organizational context)
    [3] Partially institutionalized with approach modification (strategies and tactics acquire less than complete value, permanence, and longevity after they are adapted to the organizational context)
    [4] Not adopted
    [9] Insufficient information

57. Perceived Effectiveness of Approach (the degree to which the implementation of strategies and tactics resulted in intended outcomes)

	Wholly Effective	Partially Effective	Ineffective	Insufficient Information	
a. Change Agent	[0]	[1]	[2]	[9]	(25-27)
b. Change Sponsor	[0]	[1]	[2]	[9]	
c. Change Target	[0]	[1]	[2]	[9]	

58. Perceived Resolution of Problems (the degree to which the implementation of strategies and tactics resulted in the resolution of problems defined by actors)

	Complete Resolution	Partial Resolution	No Resolution	Insufficient Information	
a. Change Agent	[0]	[1]	[2]	[9]	
b. Change Sponsor	[0]	[1]	[2]	[9]	(28-30)
c. Change Target	[0]	[1]	[2]	[9]	

59. Unanticipated Consequences of Change (the degree to which there are positive and negative results contrary to original expectations of actors)

	Many	Few	None	Insufficient Information	
a. Positive	[0]	[1]	[2]	[9]	(31-32)
b. Negative	[0]	[1]	[2]	[9]	

60. Congruence of Perceived Results
[ ] (do not code) (33)

Part VII. VALIDITY: This part of the case analysis form deals with methodological characteristics of knowledge generated and applied in the course of the change effort. Methodological characteristics include the design of inquiry, style of concept formation, observational conditions and methods, sampling, analytic methods, criteria for outcome measures, coder confidence, and the identity of the case reporter.

61. Design of Inquiry (the framework, strategy, and plan employed to acquire knowledge during the change effort)
[0] Experimental (direct manipulation of independent variables with random selection of subjects, random assignment to experimental and control groups, and random application of experimental conditions to groups)
[1] Quasi-experimental (direct manipulation of independent variables without randomization of subjects, experimental and control groups, and/or experimental conditions) (34)
[2] Ex post facto (no direct manipulation of experimental variables with explicit controls to estimate the effects of intervening variables)
[3] Exploratory (no direct manipulation of experimental variables and no explicit controls to estimate the effects of intervening variables)
[9] Insufficient information

62. Style of Concept Formation (the relative degree to which concepts are derived from preestablished theories of change or from the context of the change effort)
    [0] Wholly formal (concepts deduced from preestablished theories without modification through contextual interpretation)
    [1] Formal (concepts deduced from preestablished theories but modified through contextual interpretation) (35)
    [2] Contextual (concepts induced from the context of change but supplemented with concepts deduced from preestablished theories)
    [3] Wholly contextual (concepts induced entirely from the context of change)
    [9] Insufficient information

63. Observational Conditions (the degree to which observations are made under realistic or normal organizational circumstances)
    [0] Onsite-routine
    [1] Onsite-special (36)
    [2] Offsite-routine
    [3] Offsite-special
    [9] Insufficient information

64. Observational Methods (the means used to obtain information in the course of the change effort)
    [0] Unsystematic direct observation (descriptions recorded without explicit codes, categories, or scales)
    [1] Systematic direct observation (descriptions recorded with explicit codes, categories, or scales) (37)
    [2] Survey (descriptions acquired from self-reports of respondents to questionnaires and interview schedules)
    [3] Records (descriptions acquired from available written documents or data series)
    [4] Two observational methods
    [5] Three or more observational methods
    [9] Insufficient information

65. Sampling Methods (the degree to which explicit procedures are used to establish the typicality of the change setting)
    [0] Simple random sample
    [1] Stratified random sample (38)
    [2] Purposive sample
    [3] Convenience sample
    [9] Insufficient information

66. Analytic Methods (the means used to summarize, correlate, and generalize information acquired through observation)
[0] Quantitative (application of statistical techniques to ordinal and interval data to produce descriptions and explanations in the form of coefficients, ratios, levels of significance) (39)
[1] Qualitative (use of tables and simple written descriptions to produce non-quantified descriptions and explanations)
[2] Combined analytic methods
[9] Insufficient information

67. Criteria for Outcome Measures (the types of indicators employed as a means for operationalizing qualitative or quantitative measures of outcomes of change)
[0] Conceptual (indicators of changes in attitudes, feelings, opinions, beliefs)
[1] Behavioral (indicators of change in interaction, communication, involvement) (40)
[2] Technical (indicators of changes in tools, implements, machine processes, and rules for controlling the performance of work tasks and operations)
[3] Structural (indicators of changes in the organization of formal roles or positions of authority)
[4] Two of the above
[5] Three or more of the above
[9] Insufficient information

68. Coder Confidence

	Very High	High	Moderate	Low	Very Low	
a. Reliability (the accuracy or precision of the report)	[0]	[1]	[2]	[3]	[9]	(41)
b. Validity (the degree to which the change can be replicated)	[0]	[1]	[2]	[3]	[9]	(42)

69. Reporter Identity
    [0] Change agent
    [1] Change sponsor
    [2] Change target
    [3] Independent observer
    [9] Insufficient information

(43)

(44-69 B/70/3)

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APPENDIX B

Structured Interview

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STRUCTURED INTERVIEW

OESO Change Agent Questions

I. Scouting

1. How did client come to your attention?
2. What did you know about client at this point? find out?
3. Did you do anything with your team at this point? What?

II. Entry

1. Who did you first talk to in the client organization? Results of this meeting?
2. Did you talk to anyone else in the client organization?
3. Did you feel you and client were "on the same wavelength?" Why/why not? (Probe: congruence? recognition of client felt needs?)
4. What did you see as client's problem, needs or objectives at this point? What did he/she want?
5. What objectives for intervention did you agree on?
6. What resources, time or personnel commitments was client willing to provide at this point? Did you think these were adequate? Did you say anything?
7. How did you feel about prospects for intervention at this point?

III. Diagnosis

1. What diagnostic method did you use? Individual interviews? Group interviews? Surveys? Observation?
2. Who did you get data from? (Sampling design? Number of respondents at each level?)
3. How did client participate in data collection?
4. Did client think data were right? Actual problems? What he wanted to do about them (ideal)?

IV. Planning/Problem-solving/Training

1. Who involved in data feedback/problem-solving/training sessions? (family group)
2. How did you introduce session? (Probe: participant inputs to objectives, agenda)
3. How did it go? any resistance? what kind? (Probe: evidence re psychological safety)
4. What was the design of the session? (varied learning styles?) Did they seem to be getting it? (appropriate learning style?)
5. Did participants get any feedback during session? What kind? How did they react to it?

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6. Did participants solve any problems during the session? What were they? How did they solve them?
7. Did participants set goals during the session? Example of goal set? (challenging but realistic, measurable, due date?)
8. Did participants identify action steps? Example?
9. Intervention in this group likely to have any impact on other parts of organization?
10. Where was session held? (retreat setting?) Any complaints about accommodations, setting, food? (hygiene factors)
11. Did anything during the session lead you to modify your intervention design?
12. Do you have any plans for further contact with the client?

V. Action

1. What did the client do as a result of the intervention?

VI. Follow-up Technical Assistance and Support

1. Have you been in touch with client since intervention session? Who contacted whom?
2. What did you do? (technical assistance, feedback on goal progress)
3. How does client top management feel about intervention? (support/lack of support)
4. Have participants received any rewards/sanctions for acting as a result of intervention?
5. Do participants get together? (reference groups)
6. Has the intervention had any effect on the rest of the organization?

VII. Evaluation

1. Is intervention being evaluated? How? When? What are the criteria for success/failure?
2. How are findings being used? Who gets them? What reactions?

VIII. Termination

1. Has client used any of intervention methods on own? (evidence of transferred capability)
2. How did termination occur? Why?

Client Sponsor Questions

I. Scouting

1. How did the OE program come to your attention?
2. How did you make contact with OESO (who initiated)?

II. Entry

1. What happened at first meeting with OESO?
2. What were your objectives at this point? problems? What did you want?
3. Did you feel you and OESO were "on the same wavelength?" Why/why not?
4. What objectives/next steps did you and OESO agree on?
5. What time, personnel or other resources did you agree to provide? Did you/OESO feel these were adequate?
6. How did you feel about the prospects for the intervention at this point?

III. Diagnosis

1. How did the consultant collect data? (individual interviews? group interviews? surveys? observation? other?)
2. Who was data collected from? (Sampling design: number of respondents at each level)
3. Did you participate in data collection? Who else in your organization?
4. Did you/they feel adequately informed about purposes, uses, confidentiality?
5. Did you think the data/diagnosis were right? Did they tell you anything you didn't know? problems (actual)? ideas for change (ideal)?

IV. Planning/Problem-solving/Training

1. Who involved in data collection/problem-solving/training? (family group)
2. What input did you/other participants have?
3. How did it go? Any resistance? What kind? (evidence re psychological safety)
4. What was design of session? theory? practice/experience? (varied learning styles? appropriate learning styles?)
5. Did you/participants get any feedback during session? What kind? How did they react to it? Did they think it was meaningful, accurate, relevant?

6. Did you/participants do any problem-solving during the session? How? What was the result?
7. Did you/participants set any goals during the session? Example? (challenging yet realistic/nontrivial? measurable? due dates?)
8. Did you/participants identify action steps to reach goal? Example?
9. Is intervention likely to have any impact on other parts of the organization? Who? What?
10. Where was session held (retreat setting)? How were accommodations, setting, food (hygiene factors)?
11. Did you/participants feel any part of intervention needed to be changed? Did OESO pick up on this? Did he change anything? (feedback loops)
12. Do you have any plans for further contact with OESO? (contract for follow-up activities)

V. Action

1. What did you do as result of intervention session?

VI. Follow-up Technical Assistance and Support

1. Have you been in touch with OESO since intervention session? Who contacted whom?
2. Has OESO given you any help or feedback on your change activities? What?
3. How does your superior (top management) feel about the intervention effort at this point? How do you feel?
4. Has anyone received any rewards or reprimands for taking any action stemming from the intervention?
5. Have participants gotten together since intervention session (reference group)?
6. Has intervention had any impact on other parts of the organization? What?

VII. Evaluation

1. Is intervention being evaluated? How? What are your criteria of success/failure?
2. How will findings be used? Who gets them? What reactions?

VIII. Termination

1. Have you used any intervention techniques on your own? Gotten anything you can use?
2. How did termination occur? Why?
3. All in all, do you feel intervention was a success or failure? Why?

APPENDIX C

Case Analysis Observation Form

CASE ANALYSIS OBSERVATION FORM

Change Agent Variables	Evidence	Yes	?	No	NA
I. Characteristics					
A. Demographic variables					
1. age					
2. sex					
3. race					
4. military rank					
*B. Values and attitudes					
C. Job-related training					
D. Work experience					
1. line commands					
2. staff experience					
E. Consulting experience					
1. # months					
2. # interventions					
3. # clients					
*II. Competencies					
A. Psychological safety					
B. Diagnostic					
C. Initiatory					
D. Executive					

* To be determined from analysis of Behavioral Event Interview data

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Case Analysis Observation Form
Change Agent Variables (continued)

	Evidence	Yes	?	No	NA
III. Role(s)					
A. Type					
1. advocate					
2. expert					
3. trainer					
4. collaborative problem-solver					
5. processor					
B. Dimension					
1. specific technical expertise					
2. general expertise					
3. interpersonal expertise					
4. power					
5. locus: independence/ marginality					
6. goal congruence					
7. task focus					
8. interpersonal focus					
9. directive vs. collaborative					
10. didactic					

Case Analysis Observation Form

Client Variables	Evidence	Yes	?	No	NA
I. Systems Characteristics					
A. Demographics					
1. size					
2. age					
3. mission					
4. occupational status of employees					
5. geographic and national location					
6. area of operations					
B. Structure					
1. components					
2. reporting relations					
C. Management					
1. goals					
2. style					
3. control (rewards and punishments)					
D. Technology					
E. Subordinates					
F. Organizational climate					

Case Analysis Observation Form
Client Variables (continued)

	Evidence	Yes	?	No	NA
G. System effectiveness					
1. performance					
2. satisfaction					
3. maturity					
H. Uncertainty					
II. Problems					
A. Locus					
1. component					
2. function					
3. size (individual, interpersonal, intra-group, intergroup, system)					
4. status level (top, middle, lower, nonmanagement)					
B. Type					
1. task					
2. goal					
3. interdependence					
4. power					
5. climate					
C. Pressure					

Case Analysis Observation Form
Client Variables (continued)

	Evidence	Yes	?	No	NA
III. Client Recipients					
A. Change sponsor					
1. status/power					
2. resources					
3. managerial style (attitudes, values)					
4. personal commitment and involvement					
B. Target					
1. values: trust, open communication, participation					
2. power					
3. skills: learning style, knowledge					
4. needs					

Case Analysis Observation Form

Intervention Method Variables	Evidence	Yes	?	No	NA
I. Individual Consultation					
II. Unstructured Group					
III. Structured Group Training					
IV. Process Consultation					
V. Survey-guided Development					
VI. Job Redesign					
VII. Personnel Systems					
VIII. Management Information/ Financial Control Systems					
IX. Organizational Design					
X. Integrated Approaches					

Case Analysis Observation Form

Intervention Process Variables	Evidence	Yes	?	No	NA
I. Scouting					
A. Identification of potential "early adopters"					
B. Active marketing					
C. Collection of advance data on potential clients					
D. Change agent team-building					
II. Entry					
A. Top management support					
B. Develop contact networks and support					
C. Congruent with client norms					
D. Present next steps relevant to client felt needs					
E. Agreement on clear objectives					
F. Clear contract for intervention resources and responsibilities					
G. Change agent positive expectations					

Case Analysis Observation Form
Intervention Process Variables (continued)

	Evidence	Yes	?	No	NA
III. Diagnosis					
A. Data Collection Method					
1. individual interviews					
2. group interviews					
3. survey					
4. observation					
5. other (e.g., document analysis)					
B. Sample Design					
1. percentage of work group members					
2. top level					
3. middle level					
4. lower level					
5. other					
C. Active client participation in data collection					
D. Accurate diagnosis (realistic actual and ideal)					
IV. Planning/Problem-solving/ Training Intervention					
A. Family group					
B. Participation in setting objectives for session					

Case Analysis Observation Form
Intervention Process Variables (continued)

	Evidence	Yes	?	No	NA
C. Climate of psychological safety					
D. 1. Use of varied learning styles					
a) new cognitive input					
b) experiential input					
2. Input keyed to learning style of client					
E. Feedback to participants accurate, timely (created actual-ideal discrepancy)					
F. Problem-solving by participants					
G. Goal-setting					
1. challenging but realistic (not trivial)					
2. measurable					
3. due date					
H. Action steps					
I. Identify effects on other parts of organization					
J. Adequate hygiene factors					

Case Analysis Observation Form
Intervention Process Variables (continued)

	Evidence	Yes	?	No	NA
K. Feedback loop: change in intervention session as result of client reaction					
L. Contract for follow-up activities					
V. Action					
VI. Follow-up Technical Assistance and Support					
A. Change agent maintain contact					
B. Change agent feedback on action, progress toward goals					
C. Top management attention and support					
D. Rewards/sanctions for change activities					
E. Reference groups of change participants					
F. Diffusion of change to other parts of organization					

Case Analysis Observation Form
Intervention Process Variables (continued)

	Evidence	Yes	?	No	NA
VII. Evaluation					
A. Level					
1. reaction					
2. knowledge					
3. behaviors					
4. outcome					
B. Design					
C. Politic use of findings					
VIII. Termination					
A. Transfer of capability to client					
B. Gradual, planned vs. abrupt, unplanned					
C. Success vs. failure reasons					

Case Analysis Observation Form

Outcome Variables	Evidence	Yes	?	No	NA
I. Reactions					
A. Perceived effectiveness					
B. Attitudes					
C. Norms					
D. Tension release					
E. Organizational climate					
II. Learning					
A. Motivation					
B. Knowledge					
C. Cognitive					
D. Interpersonal					
III. Behavior/Performance					
A. Skills					
B. Group process					
C. Approach adoption					
D. Job procedures					

Case Analysis Observation Form
Outcome Variables (continued)

	Evidence	Yes	?	No	NA
IV. Results					
A. Performance					
1. IG score					
2. ARTEP score					
3. TSI/CTT/NSI score					
4. accident rate					
5. OR rate					
6. other					
B. Withdrawal					
1. reenlistment rates					
2. #NJP (Article 15)					
3. delinquency reports					
4. UA					
5. sick calls					
6. other					
C. Attributes					
1. personnel (number, age, sex, race, competence)					
2. structure					
3. technology/job design					