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DEVELOPMENT TECHNIQUES AND ORGANIZATIONAL CHANGE: AN OVERVIEW OF RESULTS FROM THE MICHIGAN INTER-COMPANY LONGITUDINAL STUDY

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13. ABSTRACT

Data collected by use of the Survey of Organizations questionnaire from more than 17,000 respondents in 23 organizations which participated in the Inter-company Longitudinal Study are analyzed in terms of the organizational development treatments which intervened between pre and postmeasures. Four "experimental" treatments (Survey Feedback, Interpersonal Process Consultation, Task Process Consultation, and Laboratory Training) and two "control" treatments (Data Handback and No Treatment) are compared to determine their comparative associations with improved organizational functioning. The results indicate that Survey Feedback was associated with a significant frequency of improvement, that Interpersonal Process Consultation was associated with questionable improvement, that Task Process Consultation was associated with little or no change, and that Laboratory Training was associated with significand deterioration in organizational functioning.

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DEVELOPMENT TECHNIQUES AND ORGANIZATIONAL CHANGE: AN OVERVIEW OF RESULTS FROM THE MICHIGAN INTER-COMPANY LONGITUDINAL STUDY

David G. Bowers

In 1966, staff members of the University of Michigan's Institute for Social Research launched a five-year program of organizational projects collectively entitled, the Inter-Company Longitudinal Study (ICLS). This ambitious undertaking was intended to address itself to a number of substantive questions of organizational behavior and change research within a framework built upon the following precepts and assumptions:

1. Continuity of Site

   It was strongly felt by those organizational researchers committed to the study that much of the confusion and many of the contradictions within the body of the profession's published findings resulted from a failure to take time into account. Most results had been based upon single-occasion analyses, whereas many of the true relationships may well function across time (e.g., management practices today may produce outcomes months later, not outcomes today). Solving this problem seemed to require repeated measurements from the same sites.

2. Use of a Common Survey Instrument

   In addition to the time-lag effect just described, it was felt that substantial increases in the fund of organizational knowledge could come about only when the same measures of organizational functioning were obtained in a number of different sites. Previous research had rather consistently tailored each instrument to its site of intended use, with the result that cross-organizational conclusions were obtained by inference, rather than by quantitative comparison.

3. Organizational Development as a Beneficial Tool

It was recognized by the research staff that if beneficial movement for analytic purposes were to be generated, and if continuity of site were to be maintained, planned applications would of necessity form a part of the study design. As the original proposal stated:

> "Business firms are loathe, for understandable reasons, to make extensive commitments of funds or of personnel to efforts that do not promise some relatively immediate payoff. There must be present in this project, therefore, adequate provision for benefiting the participating organizations through the application of the findings as the research proceeds." (Likert, et al., 1967, p.7)

4. Research on Organizational Change Techniques

Organizations are social systems, and, for this reason, development activities must be studied in terms of their systemic impact. Involving as it did a number of organizations undergoing what would likely be somewhat, if not very, different experiences, the study was viewed as an unprecedented opportunity to conduct research around the comparative effectiveness of those development efforts. Once more the original proposal may be cited:

> "As the efforts to bring about organizational improvement proceed, opportunities will occur to conduct rigorous quantitative studies designed to learn more about which principles and methods are most effective for training managers and building highly effective human organizations." (Likert, et al., 1967, p. 8)

Other aspects of the original design were also important; however, these four seem most central to the purposes of the present report, an investigation of the comparative success and failure of different development strategies.

Following an initial year of instrument development, staff acquisition, and pilot projects, the main phase of the study began.

The hopes and aims sketched in the four precepts just listed were, in varying degrees, brought to fulfillment. Continuity of site proved to be greater than had been the case in the great majority of previous studies. Most organizations remained committed to, and involved in, an ICLS Project for at least two years. They did not, however, endure for the full five years, (although some which are still ongoing may well ultimately do so.) Most participating organizations had at least two measurements, with some form of change, development or intervention ongoing in the period between the two. Some had as many as five successive measurements.

A common survey instrument was developed and refined. It has been used, in one of its editions, in each of the sites and waves of data collection. Relevant portions of its content form the substance of the data to be examined in the present report, and in a later section those portions will be described. The instrument itself is described in considerable detail in an earlier report by Taylor and Bowers (1970), and the interested reader is referred to that source for additional information.

With the exception of a very few organizations in which no action plan was intended and in which none evolved, nearly all of the organizations undertook some program of organizational development. As a later section of the report will indicate, the specific nature of the activity varied from one site to another. Still in all, the original precept regarding the usefulness of action or development work was largely observed.

Research on organizational change techniques was slow in getting underway and undernourished in its early stages. A number of mistakes appear to have been made by both researchers and change agents. A detailed litany would rather rapidly assume the character of excuse-making, whereas they are neither desired by the reader nor, in the writer's judgment, needed. Nevertheless, some brief statement may serve to make more understandable the differences (or lack of them) in those change treatments which will be the focus of attention in much of the report. A comprehensive list would include at least the following:

1. In the early months of ICLS, a great deal was attempted with little by way of financial resources. As a result, change agents were overworked in the field, attempting to cope with too many projects while building staff and working relationships. They had little time to document their activities adequately, and even less time to spend planning their interventions in ways which would accomplish both change objectives and good change research design. Researchers were similarly overtaxed attempting to build basic instrumentation and at the same time keep up with the proliferating demands from the field for additional data analyses. The net result was that change agents did what they felt competent to do, with little or no influence from members of the research staff.

2. Organizational change research is an activity very different in instruments, problems, and analysis techniques from conventional organizational behavior research. It is, in many aspects, an uncharted territory, and the research staff had, of necessity, to feel its way along quite gradually. As a result, many of the findings are only now finding their way, as in this report, into the professional purview.

3. Finally, and most regrettably, an effect somewhat akin to the "territorial imperative" began to operate between researchers and change agents. Just as many researchers resisted influence attempts by change agents regarding the topics and content of their research, in large measure because they feared the encroachment upon research funds and time of a seemingly unquenchable thirst by clients and change agents for service "runs" on the survey data, so did change agents resist the intrusion by researchers upon their turf, the client system. This latter resentment, although still puzzling, perhaps reflected a perceived threat to their effectiveness and acceptance in the client system. The change agents were, almost to a man, skilled specialists drawn from the business world. As such, they lacked doctoral

degrees, yet were acting on behalf of an academic organization. For credential-bearing researchers to arrive on the client scene and scrutinize their operation might have been viewed by the client system as reflecting probationary status. The net result of these inter-functional relationship difficulties was that less contact than should have occurred actually came to exist among researchers on the one hand, and change agents and client systems on the other.

Having listed these difficulties, the reader may be tempted to conclude that research-on-development aims were foregone. This is decidedly not the case, a fact which will, we hope, become evident in this report and future published results. We cite the problems to forewarn in advance the reader who anticipates a detailed chronicling of intervention strategies that less than either he or we ourselves desire will be presented. Records do exist, however, and it is from these memoranda, letters, and notes, plus before and after data, that research findings can be obtained. As the present report will indicate, the accumulated data may outweigh, by sheer numbers of cases and possibilities for comparative analysis, what may be lacking in terms of day-to-day detail: at the end of five years, work in some form has been underway in 31 organizations (plants or separate marketing regions) in 15 companies.

Within the present analysis, data from 23 organizations in 10 companies are included. Six organizations, in four companies, are excluded because no repeat measurements have as yet been obtained. One company, although a repeat measurement has been obtained, has been involved primarily in an ancillary activity not related to organizational research and change of the kind considered here. For this reason, it too has been eliminated.

The total array of organizations, therefore, encompasses 17,495 persons, some from white-collar, others from blue-collar, positions. The organizations themselves are in the continuous process manufacturing, assembly line manufacturing, components fabrication, marketing, and research and development functional areas. They are drawn from a wide area of industries: paper, chemicals, petroleum refining, aluminum, automobiles, household products and insurance.

Change Treatments to be Compared

Six different forms of intervention may be identified as having gone on within one or more of the 23 organizations. Most of them are not "pure" treatments, since nearly all involved at least some form of return of tabulated survey data. Nevertheless, they are sufficiently different from one another to have generated sometimes intense conflicts among change agents who practice them, and to have been recognized as different by the client systems who experienced them.

Survey Feedback - No authoritative volume has as yet been written about this development technique, although a number of article-length references exist.*

As a result of this absence of detailed publication, the writer is aware, from direct and indirect encounters with others in the field, that many persons mistakenly believe that survey feedback consists of a rather superficial handing back of tabulated numbers and percentages, but little else. On the contrary, where employed with skill and experience, it becomes a sophisticated tool, using the data as a springboard to development.

In the sites which we shall, in the remainder of the report, classify as having received Survey Feedback as a change treatment, this, and only this, formed the principal substance of the intervention. Data were tabulated for each and every group engaged in the project, as well as for each combination of groups which represented an area of responsibility in the organizational pyramid. Data appeared as they do in Figure 1.

A tabulation of this sort, containing data from the responses of his own immediate subordinates,

*For an excellent summary, the reader is referred to Katz, D. & Kahn, R. The social psychology of organizations, New York: John Wiley & Sons, Inc., 1966, pp. 416-425.

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* GROUP NUMBER 99999 *
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ITEM	PERCENTAGE DISTRIBUTION (1)	(2)	(3)	(4)	(5)	MEAN	STD. DEV.	N
7 CO USES NEW WK MTHODS	8	0	17	42	25	3.82	1.11	11
8 CO INTEREST IN WELFARE	8	8	17	25	33	3.73	1.29	11
9 CO IMPROVES WKNG CONDS	0	0	17	50	25	4.09	0.67	11
10 WK GP MBRS KNOW JOBS	0	0	17	58	17	4.00	0.60	11
11 CO HAS CLEAR GOALS	0	8	50	25	8	3.36	0.77	11
12 WK ACTIVITY ORGANIZED	0	0	25	58	8	3.82	0.57	11
13 EQUIPMENT ADEQUATE	0	0	0	50	42	4.45	0.50	11
14 CO HELPS EMPL INCOME	8	0	33	42	0	3.30	0.90	10
15 FELT RESP CO SUCCESS	0	8	8	25	50	4.27	0.96	11
16 YOU GET OTH UNIT INFO	8	8	42	33	0	3.09	0.90	11
17 SUPS OPEN TO IDEAS	8	8	25	42	0	3.20	0.98	10
18 BOLD ENOUGH TO DO JOB	0	0	42	42	8	3.64	0.64	11
19 WKGP MBRS INFORM EACH	0	8	42	33	8	3.45	0.78	11
20 EMPLS TRY TO COMM UP	0	0	42	33	17	3.73	0.75	11
21 YOU FEEL LOYAL TO CO	0	8	8	33	42	4.18	0.94	11
22 DISAGREEMTS WKED THRU	0	8	50	17	8	3.30	0.78	10
23 SATISFACTION WITH CO	0	8	17	8	58	4.27	1.05	11
24 SATISFACTION WITH JOB	0	17	0	17	42	4.11	1.20	9
25 SATISFACTION WITH PAY	17	25	8	17	25	3.09	1.50	11
26 SATIS WITH SUPERVISOR	0	0	0	33	58	4.64	0.48	11
27 SATIS WITH WK GP	0	0	0	42	50	4.55	0.50	11
28 NUM MOTIVS TO WK HARD	0	8	17	17	42	4.10	1.04	10
29 ENJOY JOB ACTIVITIES	8	8	0	33	42	4.00	1.26	11
30 LOOK FORWARD TO WORK	17	8	0	50	17	3.45	1.37	11
31 CONDS ENCOURGE HRD WK	0	17	8	58	8	3.64	0.88	11
32 PAY REL TO HELP TO CO	25	0	42	25	0	2.73	1.14	11
33 INFL:1ST LEVL ON DEPT	0	17	50	17	8	3.18	0.83	11
34 INFL:TOP MGRS ON DEPT	0	17	17	42	17	3.64	0.98	11
35 INFL:EMPLS ON DEPT	33	25	0	25	0	2.20	1.25	10
36 INFL:MID MGRS ON DEPT	0	33	33	17	8	3.09	0.95	11
37 INFL:INDIVL ON WK GP	17	17	17	8	33	3.27	1.56	11
38 OBJECTIVS SET JOINTLY	17	8	25	17	17	3.10	1.37	10
39 DECSN LEVELS OPTIMUM	8	0	17	58	8	3.64	0.98	11
40 DECSN-MKRS SEEK IDEAS	17	0	33	42	0	3.09	1.08	11
41 DECSN-MKRS GET INFO	0	17	25	50	0	3.36	0.77	11
42 LOWR-LEVL PROBS KNOWN	8	8	25	50	0	3.27	0.96	11
43 DEPTS PLAN,COORD WELL	0	8	50	25	8	3.36	0.77	11
44 HANDL DEPT PROBS WELL	0	8	25	50	8	3.64	0.77	11
45 HOW DEPT PROBS HANDLD	8	0	8	25	42	4.10	1.22	10
46 SUP HAS MTGS RE:PROBS	0	0	67	0	25	3.55	0.89	11
47 SUP HAS TECH SKILLS	0	8	0	42	42	4.27	0.86	11
48 SUP PULLS FOR CO,SUBS	8	8	8	25	42	3.91	1.31	11
49 NOW:SUP FRIENDLY	8	0	8	8	67	4.36	1.24	11
50 LIKE:SUP FRIENDLY	0	0	0	17	75	4.82	0.39	11
51N SUP PAYS ATTN TO YOU	8	0	25	8	58	4.00	1.28	11
52I SUP PAYS ATTN TO YOU	0	0	0	17	75	4.82	0.39	11
53N SUP WILLNG TO LISTEN	8	0	17	17	58	4.09	1.24	11
54I SUP WILLNG TO LISTEN	0	0	8	8	75	4.73	0.62	11

together with documents describing the measures, their basis and meaning, and suggestions concerning their interpretation and use, was returned to each supervisor and manager. A resource person, sometimes from ISR and at other times from the client system's own staff, usually counseled privately with the supervisor-recipient about the contents of the package and then arranged with him a time when that supervisor might meet with his subordinates to discuss the findings and their implications. The resource person ordinarily agreed to attend that meeting, to provide help to the participants both in the technical aspects of the tabulations and in the process aspects of the discussion.

Procedures by which the feedback process progresses through an organization typically vary from site to site, and did so within the ICLS sites which received this treatment. In certain instances, a "waterfall" pattern was adhered to, in which the process is substantially completed at superordinate levels before moving to subordinate groups. In other instances feedback was more or less simultaneous to all groups and echelons.

Time and space do not permit a lengthy discussion of the various forms which feedback may take. It should be stated, however, that an effective survey feedback operation sees the organization's groups move, by a discussion process, from the tabulated perceptions through a cataloguing of their implications to commitment to solutions to the problems which the discussion has identified and defined.

This technique has long been associated with organizational development and change work conducted by persons from the Institute for Social Research.

In the study presently under consideration (ICLS), it was considered at the outset as likely to constitute a more or less standard tool. That it was not as universally employed as these statements might suggest forms the basis for its identification as a distinct treatment.

Interpersonal Process Consultation - This treatment bears a very close resemblance to what Schein has termed "Process Consultation." (Schein, 1969) The change agent most closely identified with this treatment attaches great importance to developing within the client groups themselves a capacity for forming and implementing their own change program. Considerable importance is attached to the change agent's establishing himself from the outset as a trustworthy, helpful adjunct to the group's own process. A great deal of effort and emphasis is placed upon his catalyzing a process of surfacing data in areas customarily not plumbed in work organizations (attitudes, feelings, individual needs, reasons for conflict, informal processes, etc.). In behavioral specifics, the change agent employs the posing of questions to group members, process-analysis periods, feedback of observations or feelings, agenda-setting, review, and appropriateness-testing procedures, and occasional conceptual inputs on interpersonal topics. Work is occasionally undertaken with members singly, but more often in natural work groupings. An assumption seems generally to be made that human, rather than technical, processes have primacy for organizational effectiveness.

Task Process Consultation - This treatment was oriented very closely about task objectives and the specific interpersonal processes associated with them. The change agent who adhered to this pattern typically begins by analyzing a client unit's work-task situation privately, following extensive interviews, in terms of their objectives, their potential resources, and the organizational forces blocking their progress. He consults privately at frequent intervals with the supervisor, both to establish rapport and to obtain that supervisor's commitment to objectives and desired future courses of action. He sets the stage for client group discussions by introducing select bits of data, or by having another person do so. He encourages group discussion, serves as a process observer, but also uses role playing, some substantive inputs at timely points, as well as non-directive counseling techniques, to guide the discussion toward commitment toward desired courses of action.

Laboratory Training - As practiced within the projects comprising ICLS, this intervention technique more nearly approximated the interpersonal relations lab than it did the intrapsychic or personal growth session. A "family group" design was followed almost exclusively, with the entire lab lasting from three days to two weeks, depending upon circumstances and organizational schedule requirements. Sessions were ordinarily conducted at a motel or resort away from the usual work place. Experiential exercises (e.g., the NASA Game or "Moon Problem," the Ten-dollar Exercise, the Tower-building Problem) were interspersed with unstructured discussion time.

A number of terms were, during the years of the study, used by those conducting the training to describe it. Initially it was referred to as "T-Group Training;" in later years it was termed "Team Development Training" or simply "Team Training." The content, however, remained relatively constant in kind, if not in exact substance. Those change agents who conducted the training were not novices to it; on the contrary, they had had many years of experience in conducting it and were judged by those familiar with their work to be competent.

Data Handback - Not truly a change treatment, this forms instead a control or comparison condition. In certain sites no real survey feedback work was conducted. Data were tabulated and returned in envelopes to the appropriate supervisors, but no effort was made to encourage group problem-solving discussions concerning those data. Nor did any other treatment occur in these sites.

No Treatment - In a few sites data were tabulated and returned to the appropriate top or staff manager, but were not shared by him with managers and supervisors for whom they were relevant. They were, instead, filed away in a cabinet. Since no other development activities were undertaken in these sites, it seems justifiable to classify them as having had no treatment at all.

Having read these brief capsule-descriptions of the change treatments employed within ICLS, the reader may find himself confused as to the principal dimensions of difference among them. A brief outline of those differences may help to alleviate that understandable cloudiness. As the writer conceptualizes them, they concern two general topics: the time frame, reliability, and validity of information inputs: and the primacy of task versus interpersonal concerns.

Let us consider first the issue of the time frame of information inputs. Survey Feedback starts from a point of the presentation of tabulated data obtained from responses to a paper-and-pencil questionnaire. The nature of the items in the questionnaire leads to those responses' representing a summarization, in each respondent's mind, of behavior or conditions as they have existed "on the average" over some previous period of time.* Because it combines many responses, from each of many individuals, the information is rather highly reliable. Because most of these individuals have experienced the behavior or condition first hand for a long period of time, they know it well, and their responses are presumably reasonably valid. The use of a standard questionnaire instrument, developed with technical care, enhances these two conditions. It also results, however, in the omission from consideration of events and characteristics which are either rare, or unique to the group, individual, or organization in question.

Both Interpersonal Process Consultation and Laboratory Training rely primarily upon behavioral evidence drawn from immediately ongoing events, the "here and now." In Interpersonal Process Consultation, most of these inputs are perceived, analyzed and/or synthesized to some extent by the change agent, and presented by him to the group. Since much of the information is in this way processed by a single perceiver, and, in any event, based upon a very limited number of occurrences, it is likely to be much less reliable. It will therefore

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*Informal investigations conducted in the early years of ICLS indicate that most respondents take six months to a year into account in arriving at their response.

represent "common" behavioral variance much less validly. Its advantage, however, is that it has a capability, which Survey Feedback lacks, of tapping unique and rare occurrences which may be of great importance.

Laboratory Training goes one step further and removes most of the reference frames, as well as any remaining "there-and-then" character, from the information inputs. The change agent is also a much less active person in providing information inputs. Each member comes to function much as does the Interpersonal Process Consultant, inputting from behavioral evidence then present in interaction among the members.

Task Process Consultation resembles Interpersonal Process Consultation in the degree of reliability of the information inputs which occur, but retains the "there-and-then" character associated with survey feedback. Inputs are much more likely to be associated with work or task issues back in the day-to-day setting, occurring over a period of time, than is the case with those inputs made by the Interpersonal Process Consultant.

The task-versus-interpersonal primacy issue relates to what has been said about the information base. Survey Feedback allows developments to unfold as the group feels they should and must, insisting only that, whatever the character of the identified problems which result from discussion of own data, the group attempt to arrive at solutions to them. Thus it deals in both task and interpersonal domains, and ordinarily moves back and forth, from one to the other, with comparative ease.

Interpersonal Process Consultation ordinarily occurs in the context of work by client members upon task problems, but its focus is upon interpersonal issues which block the group from increased effectiveness. It is much more likely to assume that task problems can be solved once interpersonal problems have been surfaced, confronted, and solved.

Laboratory Training once again steps another notch out on the continuum and, as far as possible, removes the task-structure pharaphernalia from the scene. The focus is instead upon interpersonal dynamics almost exclusively, in the belief that at least some of the learning thus gained will transfer with the participants back to the work situation upon their return.

Task Process Consultation assumes that task and objectives difficulties are the origin-point for many interpersonal problems. For this reason, primacy is given to work and task issues, in the belief that clearer, more careful perceptions of those issues, in a group setting and under the guidance of a change agent, will lead quite naturally to the alleviation of interpersonal problems.

The remaining two conditions included as "treatments" in the present study are statistical categories only. No pretense is made that they involve principles and theory of change. For this reason, no discussion of them in the above terms is presented.

In an earlier section, the statement was made concerning those sites subsequently labeled as having received Survey Feedback that this was the "principal substance of the intervention" in those sites. It was also stated that some form of tabulated survey data was returned to someone in each site. That also is true. As the reader will discover, the analysis distinguishes between organizations as whole systems and the treatment which the system, as such, received on the one hand, and "capstone" groups and the treatments which they received on the other. Events, schedules, and the personal style preferences of the change agents combined to produce whole intervention "packages" which differed from some sites to others. Where a system is classified in this report as having received Survey Feedback as its treatment, our meaning is that survey feedback, and that alone, was used, both with capstone groups (those groups at the top management rungs of the hierarchical ladder) and all groups below them which were involved in the project. Where Interpersonal Process Consultation, Task Process Consultation, or Laboratory Training are the reported treatments, our meaning is that the principal intervention with the capstone groups consisted of that particular treatment. These groups will also have received tabulated data, and will ordinarily have spent a variable amount of time discussing it. It was characteristic of the use of these other treatments, however, that the change agents who chose to follow them ordinarily placed survey feedback work in a distinctly secondary role. In some instances, after a few brief, and sometimes superficial, sessions, groups were encouraged to move on to the "real"

change activity. In other instances, the non-feedback activity began before survey data were made available, and the data were used only occasionally (perhaps by the change agent himself) to underscore a point or a development. Feedback, to the extent that it went on at all, was often left in these sites to partially trained, and normally overloaded, internal resource persons, who were themselves often more attracted to the more glamorous activities modeled by the external change agent.

Thus the contrast is between those sites in which Survey Feedback was truly and thoroughly conducted, at all levels and without other treatments, and those sites in which a rather half-hearted effort at feedback was overshadowed by other treatments with capstone groups.

Against a background of these descriptions, it may be helpful to the reader to note the number of individuals included in the organizations which received each of the treatments. Table 1 presents the information.

Measurement Instruments and Analysis Procedures

Our dependent variables in the analysis to be reported in the remainder of the report are measures of organizational functioning obtained from repeated administrations (ordinarily one year apart) of the Survey of Organizations questionnaire. (Taylor & Bowers, 1970) More specifically, our attention will be focused upon 18 critical indices generated by that instrument. Five are measures of the communication patterns, decision-making practices, coordination, control structure, and motivational conditions which, as a milieu surrounding any particular focal group, comprise the organizational climate within which it must live. (Bowers, 1969) Four are measures of managerial leadership of an interpersonal (support and interaction facilitation) and task (goal emphasis and work facilitation) nature. Four similar measures tap the peer leadership area, and together these eight measures reflect what has come to be called the "Four-factor" theory of leadership. (Bowers & Seashore, 1966; Taylor, 1971) The remaining five measures tap satisfaction dimensions (company, supervisor, job, pay, and peers).

Table 1

Treatment	Number of Organizations	Number of Respondents
Survey Feedback Only	5	5666
Interpersonal Process Consultation	4	3852
Task Process Consultation	5	2853
Laboratory Training	5	3381
Survey Handback	2	818
No Treatment	2	925

Considered for any organization or group, high scores on these 18 measures are considered to be reasonably reflective of a general state of greater organizational "health." Contrariwise, lower scores are considered to be indicative of a less effective state.

For the analyses to be reported here, not one, but two successive measures are considered simultaneously, those preceding and following the occurrence of a particular change treatment. For these purposes, the first (or pre) measures have been subtracted from the second (or post) measures. Thus a "positive" change score indicates enhanced effectiveness, whereas a "negative" score indicates deterioration.

In most cases our statistical comparisons will be presented in the form of a Sign Test which compares the instances in which measures have changed positively with the instances in which they have changed negatively. In a few instances mean change scores will be presented and compared.

In the balance of the report, we shall consider findings which, within the confines of the ICLS setting, will hopefully help answer the following research questions:

1. Were the treatments differentially effective in producing change in organizational functioning, as measured by the Survey of Organizations questionnaire?
2. What is the relationship between change in organizational climate and the effects of these various treatments?

Results

A series of sign tests, comparing the frequency with which changes are positive with the frequency with which they are negative, for the organizational climate, managerial leadership, peer leadership, and satisfaction variable categories, by treatment, is presented in Table 2. The reader may note that, for each treatment, two comparisons are given for each variable category. One comparison is labeled, "Whole Systems" and refers to comparisons of grand response means for all respondents combined within

Table 2

Sign Tests of Positive Versus Negative Changes In Questionnaire Indices, from First to Second Survey Waves, by Variable Category and Change Treatment

Treatment	Variable Category: Organizational Climate			Managerial Leadership			Peer Leadership			Satisfaction		
	Neg. Δ's	Pos. Δ's	Sign Test p	Neg. Δ's	Pos. Δ's	Sign Test p	Neg. Δ's	Pos. Δ's	Sign Test p	Neg. Δ's	Pos. Δ's	Sign Test p
Survey Feedback												
Whole Systems	7	18	.05	3	17	.01	0	19	<.01	8	17	NS
Capstone Groups	12	49	<.01	21	37	.05	17	41	<.01	23	46	.01
Interp Process Consult.												
Whole Systems	6	13	NS	1	15	<.01	3	13	.05	12	8	NS
Capstone Groups	12	8	NS	9	6	NS	10	5	NS	10	10	NS
Task Process Consult.												
Whole Systems	16	9	NS	9	11	NS	8	12	NS	11	14	NS
Capstone Groups	10	8	NS	11	13	NS	8	16	NS	5	21	<.01
Laboratory Training												
Whole Systems	24	0	<.01	14	6	NS	11	9	NS	20	5	.01
Capstone Groups	62	41	.05	35	47	NS	49	32	NS	51	48	NS
Data Handback												
Whole Systems	8	2	NS	2	5	NS	0	8	.01	4	6	NS
Capstone Groups	29	25	NS	16	28	NS	17	26	NS	22	30	NS
No Treatment												
Whole Systems	9	1	.05	7	1	NS	8	0	.01	8	1	.05
Capstone Groups	29	13	.05	22	12	NS	18	13	NS	17	18	NS

a particular organization for the first and second waves of measurement (ordinarily one year apart). The other comparison is labeled "Capstone Groups" and refers, within the Interpersonal Process Consultation, Task Process Consultation, and Laboratory Training treatments, to those groups which actually received that particular treatment. For comparison purposes, groups of a similar nature (ordinarily the top management groups) are presented for the Survey Feedback, Data Handback, and No Treatment clusters.

The findings presented in this table may be summarized as follows:

1. Survey Feedback is associated with positive change in all four categories of variables for capstone groups, and with positive change in all but the Satisfaction category for systems as whole entities.

2. Interpersonal Process Consultation is associated with positive change in managerial and peer leadership for systems as entire entities, but with no change in any category for capstone groups.

3. Task Process Consultation is associated with positive change in satisfaction for capstone groups, but is not significantly associated with change of any other form for either capstone groups or systems as entities.

4. Laboratory Training is associated with negative change in organizational climate but with no other change in capstone groups and with negative change in organizational climate and satisfaction for systems as entities.

5. Data Handback is associated with positive change in peer leadership for systems as entities, but is not associated with change of any other form, for either whole systems or capstone groups.

6. No Treatment, as a "treatment," is associated with negative change in organizational climate for capstone groups, and with negative change in organizational climate, peer leadership, and satisfaction for systems as entities.

An obviously possible conclusion is that Survey Feedback is simply a more potent change technique than is any of the others. Other explanations are also potentially valid, and, before settling upon the former, deserve consideration. These alternative explanations center about inadequacies in three of the principal components of the change effort and our analysis of it: (1) the organizations themselves, and the extent to which they represent a biased sample; (2) the change agents and the extent to which their skills were greater in some areas than in others; and (3) the measures used to assess change and the extent to which they adequately cover the intended domain. Let us discuss each of these in turn.

The Organizational Sample - The argument here might be stated as follows: ICLS, as an entity within the Institute for Social Research, has been a natural source of gravitation for organizations best suited for survey feedback. Contrariwise, organizations which would be benefited by, for example, laboratory training have selected themselves out of our sample. It is no wonder, therefore, that survey feedback succeeds where other treatments do not; the organizations included in ICLS arrived with information needs and saw those needs met, at least in part.

A sifting of information from files, records, and memoranda, plus the author's recollection of the nature of early discussions which led to each of the companies' participation in the study indicate that the initial interest of six of the ten companies included in the present analysis grew from, and was originally stated by their managers in terms of, a need for organizational development. Measurement, since it was a part of the overall ICLS design, was accepted as a necessary part of the project, but was of distinctly second-order importance in the expressed views of those from client systems who developed the contract. In the remaining four companies, initial interest centered more about measurement; that is, those who made contacts and arrangements felt, first and foremost, a need for the kind of information that an organizational survey would presumably

provide. Although it may be correct that a true suitability for information inputs may differ from an awareness of that suitability, there would appear to be little evidence that a felt need for information triggered the participation of most of the firms represented in the sample.

Still another comment deserves to be made. Differential suitability seems eminently sensible, yet it seems to have been largely avoided by those proponents of various treatments who have written in the professional literature. References to the comparative suitability and unsuitability of various kinds of organizations to laboratory training, for example, seem quite rare; the author could, in fact, find but one. House (1970) has written that the suitability of laboratory training may be questioned where the organization's needs run counter to the support, consideration or democracy which it is believed to produce, where the members' values are contrary to those practices, or where role pressures require of members behavior contrary to them. On the first issue (contrary organizational needs), a substantial and mounting body of evidence exists that these characteristics (support, participation, etc.) do, in fact, relate to those criteria of organizational effectiveness which presumably represent desired end states (lower costs, higher volume, lower manpower absence and turnover, higher satisfaction, etc.). Second, it is characteristic of these respondents, no less than it is of the larger data bank from which they were drawn, that members of organizations desire more, at least of the leadership behaviors measured, than they at present receive.

The third possible reason -- contrary role pressures -- deserves greater attention. In an earlier report, a conceptualization and data concerning the impact of organizational climate upon groups of members were presented. (Bowers, 1969). There is, therefore, good reason to believe that communication patterns, decision-making practices, coordination, control patterns, and motivational conditions, measured in terms of respondents' perceptions of what exists in the surrounding milieu, are a reasonably good representation of precisely those role pressures to which House has referred. Another analysis, prepared for a more detailed report about the correlates and effects of organizational climate, drew upon some,

but not all, of the data included in the present report. Within that analysis, it was possible to locate and extract data which compare survey feedback, laboratory training, no treatment at all, and skill training treatments for a subset of the present sample. This subset is particularly useful to a discussion of the question at hand, since the change agent who was responsible for survey feedback in the site included was also responsible for laboratory training in the two sites which received that treatment, and for general project liaison to the two sites which received no treatment at all. Another change agent conducted skill training in the site extracted for that purpose from this subset, but here there is the advantage of his having been that person most closely associated with that treatment, the "purest" instance of it among a number of change agents.

Using data for this subset, some further probing into the relationship between change in organizational climate and change in leadership, as they bear upon the present research questions, seems warranted. Either change in organizational climate is an effect of the treatment used, or it is an unrelated condition of the environment within which a treated group must operate. In either event, the picture is an unfavorable one for all treatments except Survey Feedback, as the data in Table 3 reveal.

If change in organizational climate is an <u>effect</u> of the change treatment, then Survey Feedback alone clearly leads to more frequent positive than negative outcomes, whereas the other treatments present the reverse pattern. On the other hand, if change in climate is an unrelated environmental event, then the non-feedback treatments are once again troublesome, since their degree of positive leadership change is smaller within categories of climate change than is that of Survey Feedback.

Finally, data presented in Table 4 show the mean change in managerial and in peer leadership <u>within</u> conditions of positive and negative change in organizational climate, for the four treatments which we have subjected to this more intense analysis. They show that, under conditions of negative climate change, change in leadership under the Survey Feedback treatment is no worse, and perhaps somewhat less negative than, changes

Table 3

Percentage of Groups within Each Treatment
Reporting Positive and Negative Changes
in Organizational Climate

Treatment	Percentage of Pos. Δ Groups	Percentage of Neg. Δ Groups
Survey Feedback	58	42
Task Process Consultation	41	59
Laboratory Training	38	62
No Treatment	30	70

Table 4

Changes in Managerial and Peer Leadership Under Positive and Negative Organizational Climate Change Conditions, by Change Treatment

Variable Category and Climate Change Conditions	Treatment			
	Survey Feedback	Laboratory Training	Task Proc. Consulta.	No Treatment
Managerial Leadership				
Positive in Organizational Climate	+.45	+.22	+.25	+.16
Negative in Organizational Climate	-.04	-.22	-.17	-.16
Peer Leadership				
Positive in Organizational Climate	+.31	+.22	+.18	+.15
Negative in Organizational Climate	-.10	-.07	-.04	-.11

observed for the other treatments. Under conditions of positive climate change, however, a substantially greater amount occurs with Survey Feedback than is true with the other treatments. Furthermore, if one rather hesitantly accepts the proposition that the changes observed under negative and positive climate change conditions within the No Treatment category represent a crude base line of the amount of change attributable to climate shift alone, then it seems likely that the changes observed for Laboratory Training and Task Process Consultation reflect little more than those climate-induced changes. Only with Survey Feedback, under conditions of positive climate change, does the observed mean leadership change substantially exceed this base amount.

The Change Agents and their Skills - This argument could be stated in the following way: The ISR change agents were simply more skilled in survey feedback than in any of the other treatments. Together with resource persons internal to the client system, whose selection they strongly influenced and whom they trained, these persons simply did a better job of survey feedback and therefore produced better results.

Two responses seem in order. First, the argument may well be valid that the ISR change agents who worked in the ICLS study, and their internal associates, were more skilled in survey feedback work than in laboratory training, task process consultation, or interpersonal process consultation. Definitive data necessary to answer this question are lacking. Nevertheless, it seems unlikely that this is true for <u>all</u> non-feedback treatments. In the first place, the change agent responsible for much of the task process consultation arrived in his ISR position from a background utterly lacking in survey feedback work, but which had provided him with ample opportunity to cultivate and develop the skill training technique which he proceeded to use. In view of this, it seems unlikely that his skill in a new technique outweighed his skill in an old and familiar one. Second, those who conducted laboratory training had, for the most part, as much or

more exposure to practice in that vein than was true concerning survey feedback. Only in the case of interpersonal process consultation does the differential skill argument perhaps hold water: those who practiced that technique were perhaps somewhat less experienced in it at the outset of ICLS than they were in survey feedback.

The second response concerns an easily overlooked fact: some form of survey feedback occurred in all sites except those classified as having received Data Handback or No Treatment. Thus their skill differential, if it existed, should have been at least somewhat modified by the fact that their presumed more skilled activity was also going on. Thus, the contrasting results from Survey Feedback and from other treatments must, if the differential skill argument holds, conceal an even greater difference than that presented. If this were true, the use of laboratory training, for example, would appear, not as a disadvantage, but as a disaster. The possible skill differential which might exist seems unlikely to be of a magnitude sufficient to explain a difference of that size.

Measures and their Adequacy - This argument contains three sub-parts, which might be phrased in the following manner: (a) The measures contained in the Survey of Organizations are biased in favor of survey feedback. Characteristics most affected by the other treatments are excluded from the roster. (b) Time lag affects the results, as the original ICLS proposal suggested. Insufficient time has elapsed for the other treatments to have had an impact; like the mills of the gods, and unlike survey feedback, they grind "more slowly but exceedingly fine." (c) The findings reflect an adjustment of perceptions in directions affected differentially by the various treatments.

The first part of this argument is unanswerable within the confines of the data collected. We literally are unable to assess the impact of treatments upon unknown and unmeasured variables. It may well be that the other treatments do produce benefits not measured here. It is also true, however,

that the organizational indices which have been measured are known, on the basis of a great deal of evidence, to be related to general organizational effectiveness. Whatever they did affect, the fact that the other treatments did not impact as effectively the conditions reflected in these measures is distinctly disadvantageous to those who would propose to use them.

The second part of the argument requires that we return once more to the data from the special subset referred to earlier. In a number of organizations which employed the Laboratory Training, Task Process Consultation, and No Treatment techniques, three waves of data were, in fact, available. It is therefore possible to look at the results for change between the second and third waves, to determine whether the picture presented in that time frame is substantially different from that presented in the first. Table 5 presents those data.

Exact comparisons to the data presented in the larger comparisons at the outset of the Results section are not possible, since the present organizations are a subset of those previously included. For this reason, the comparisons for this specific subset for the first versus second waves (i.e., the first time frame) have been retrieved and are presented, along with comparisons for the period between the second and third waves (i.e., the second time frame) in this present table. Although a number of potentially interesting, but minor, shifts occur from the first to the second time frames, it is sufficient to the present discussion to point out that, in all three treatments, the picture remains in the next year what it was in the preceding: neutral to negative.

It is, of course, possible to argue that even this degree of elapsed time is insufficient for the beneficial effects of these treatments to have shown up. However, there must certainly be some point at which lag becomes merely hope and hope becomes unrealistic. To argue that it may take more than one or two years for a change in organizational climate well up in the organization to effect a change in peer behavior in the lower ranks is plausible; to argue that, even in the capstone groups, which themselves received the treatment, after two years no result except deterioration is evident because too little time has elapsed requires an act of faith greater than the present writer can justify.

Table 5

Sign Tests of Positive Versus Negative Changes in Questionnaire Indices, from First to Second Survey Waves and *Second to Third Survey Waves*, by Variable Category and Change Treatment

Treatment	Variable Category											
	Organizational Climate			Managerial Leadership			Peer Leadership			Satisfaction		
	Neg. Δ's	Pos. Δ's	Sign Test p	Neg. Δ's	Pos. Δ's	Sign Test p	Neg. Δ's	Pos. Δ's	Sign Test p	Neg. Δ's	Pos. Δ's	Sign Test p
Task Process Consulta.												
Whole Systems	12 *12*	3 *3*	.05 *.05*	8 *7*	4 *5*	NS *NS*	8 *7*	4 *5*	NS *NS*	7 *10*	8 *6*	NS *NS*
Capstone Groups	6 *8*	8 *7*	NS *NS*	7 *9*	5 *3*	NS *NS*	5 *7*	7 *5*	NS *NS*	5 *5*	10 *4*	NS *NS*
Laboratory Training												
Whole Systems	10 *10*	0 *0*	.01 *.01*	7 *8*	1 *0*	NS *.01*	8 *2*	0 *6*	.01 *NS*	9 *9*	1 *1*	.05 *.05*
Capstone Groups	27 *26*	21 *9*	NS *.01*	19 *20*	20 *16*	NS *NS*	33 *25*	7 *9*	NS *.01*	23 *26*	23 *13*	NS *NS*
No Treatment												
Whole Systems	9 *10*	1 *0*	.05 *.01*	7 *5*	1 *3*	NS *NS*	8 *4*	0 *3*	.01 *NS*	8 *9*	1 *1*	.05 *.05*
Capstone Groups	29 *38*	13 *7*	.05<*.01*	22 *26*	12 *9*	NS *.01*	18 *23*	13 *10*	NS *.05*	17 *34*	18 *5*	NS <*.01*

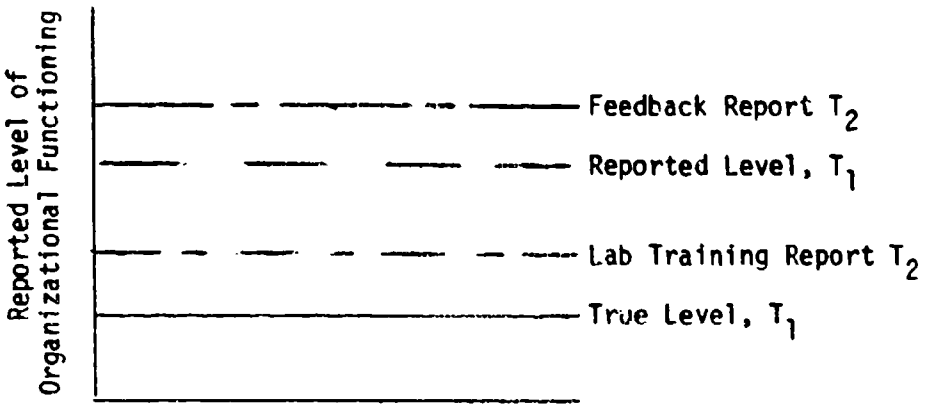
The third argument might well be stated as follows: although the summary statistics show that Survey Feedback is associated with reported positive change, and other treatments, especially Laboratory Training, with negative change or no change at all, this is misleading. These results are a function of the accuracy of perception. Survey Feedback is a transparent technique whose sole accomplishment is to alert respondents tc those responses which, if made in a subsequent session, will result in the appearance of improvement. Ir truth, things are generally worse than organizational members will admit, and Survey Feedback does nothing to correct that misperception. Laboratory Training, on the other hand, and perhaps Task Process Consultation as well, are more substantial treatments and move members toward facing their problems squarely and realistically. Because of this, their subsequent perceptions, even though they actually contain improvement, appear to reflect deterioration. The situation is somewhat as it appears to be in Figure 2.

Several responses may be given to this line of reasoning. First, if it is true that these other treatments have an effect of readjusting perceptions realistically downward, it should be visible regardless of other characteristics such as organizational climate. However, as the data show, change in leadership is reported to be positive under conditions of positive climate change and negative when that change is negative. For this reason, either the effect is unpredictable (and therefore not the result of the treatment per se) or the effect does not, in fact exist. Whichever alternative in fact obtains, it seems unlikely that the argument given holds a great deal of water.

Second, if survey feedback has the effect which this line of reasoning proposes, the fact that some marginal form of it went on even in the other "experimental" treatment sites should evidence itself. In other words, lower level groups, which received feedback if anything, should show some similar "kiting" of subsequent responses. They do not; instead, their responses change in ways quite similar to those of the capstone groups.

Finally, these other experimental treatment sites bear great resemblance to the No Treatment sites. It is therefore difficult to argue that a similar "leveling" is attainable by doing nothing at all.

Figure 2


Reported Level of Organizational Functioning
Feedback Report T_2
Reported Level, T_1
Lab Training Report T_2
True Level, T_1

Thoughts About the Implications of these Findings

The results presented in the preceding section are sufficiently surprising, and in some ways disconcerting, that they seem to require further discussion. At least the following questions seem to arise:

1. Do these quantitative results coincide with anecdotal evidence about the extent to which the various client systems accepted and acknowledged the course of project events?
2. Why should survey feedback have had such beneficient results, whereas the other treatments produced rather impoverished outcomes?

Let us turn first to the question of whether anecdotal evidence squares with the results of the study. In the Survey Feedback sites, the comments, reports, and informal conversations which constitute anecdotal evidence certainly suggest that the treatment itself did not loom large in a number of eyes as the producer of great and dramatic changes. By and large, the results were accepted and acknowledged as having occurred, and feedback was seen as a useful vehicle for change, but credit for accomplishments was placed elsewhere (often upon the client members themselves). A report, circulated within one project as an internal document only and as yet unpublished shows, in fact, that, where the greatest change occurred following survey feedback, members' expectations about the future effectiveness of feedback actually declined significantly from those obtained prior to the treatment. It is as if the participants themselves, and the things they did, are now seen as having been responsible for change, with the treatment activity receding into the background in perceived importance. If this is the case, it is as it should be, since it may signal a greater acceptance of responsibility for their own well-being.

In the other treatments, credit and blame seemed to be projected to the person of the change agent in ways which bear little resemblance to actual outcomes. In fact, some anecdotal evidence would suggest that client reactions were connected more to the personality and style of the change agent than to what he accomplished. In certain instances, the

change agent played, as Interpersonal Process Consultant, a lower key, more ambiguous role; despite the fact that, in those sites, one could usually point to significant improvements in leadership behavior in the organization as a whole, the months toward the close of the project, and those immediately following its termination, often resulted in blame-fixing upon him as one reason for what was perceived to have been a non-success. In other instances, the change agent responsible for the intervention strategy was, in personal style, more active and charismatic. Despite an overall pattern of little change, anecdotal evidence suggests that he is very highly regarded, that he is seen as having been responsible for much constructive change. In still other instances, especially those focusing around Laboratory Training, enthusiasm waxed greatly at the moment, but rapidly waned to indifference or disillusionment shortly afterward.

Although far from constituting convincing evidence, these bits of anecdotal information certainly suggest the possibility that client system affect is whimsical and no reliable measure of what has really changed. Client system affection may be both useful and necessary for continuation of projects and contracts, just as disaffection is a rather reliable precursor of their cancellation, but they may bear little or no relationship to real accomplishment.

The second issue -- Why these results? -- is a more pressing and intrinsically interesting question. Three possibilities suggest themselves, oriented around (1) extensiveness of coverage, (2) degree of unfreezing, and (3) relevance. Taking first the issue of extensiveness, it may be that, where survey feedback is the only intervention, activity tends to "fan out" through the organization. There are a limited number of things that can be done in such a session before the process arrives at a set of concrete action steps to be implemented and mutually monitored. At this point, both because of this and because the feedback format provides physical product (feedback packages) which most members are aware exist and are anxious to see, there is perhaps a natural pressure for the change agent to "get on with it" and to move out to other, and especially lower, groups.

In the other treatments, involving the change agent as they do in a more focal, more unique role, events are for him more exciting, more glamourous (and hence more attractive) and, at the same time, more time-consuming. Evidence, contained at present within the confines of one project and as yet unpublished, does suggest that, when this happens, the entire intervention tends to contract into work with a very few groups at the top of the organizational pyramid. While the experience which results may be a more in-depth one, it covers less of the organization. Since organizations are systems, with role expectations, pressures, and tendencies toward inertia, not working actively with the greater mass of the organization may simply result in an absence of change.

Feedback may also be a more efficient technique for unfreezing the organization (within the old Lewinian paradigm for change of (1) unfreeze, (2) change, and (3) refreeze). Unfreezing begins, after all, by some form of informational inputs which are new or not consonant with what has previously been believed. It may well be that tabulated survey data, presented within the context of a feedback discussion, are more difficult to deny than are the observations of single change agents or single peers. The data, after all, come to the client group as the responses of that group themselves. Furthermore, they have been committed to written form -- a permanent record -- by a prestigious, and presumably objective, outside entity. It is also likely that these materials will be kept, will be periodically noticed in the course of a day's work (if not in one's own desk or file, on the desk or conference table of another). Unlike the process consultant or laboratory trainer, the vehicle of change within a survey feedback treatment (i.e., the tabulation and package) is thus omnipresent. The net effect of all of these factors may be to make of the survey feedback treatment a more thoroughly unfreezing experience.

Finally, survey feedback may simply be more relevant to their world of work than is any of the alternative techniques. To say that industrial organizations are a bit "set in their ways" is to make a perhaps classic understatement. Roles, procedures, and appropriate settings for accomplishing certain things are often rather carefully prescribed. Much of the

work life-space of industrial managers exists outside of the conference room, outside of the setting of the group meeting. Conferences and meetings are, at least to some extent, reserved for discussions of issues reflecting the world "out there" with which they must collectively cope. These issues are ordinarily dealt with in terms of a stage setting which uses data -- last week's production statistics, last months grievance rate, last quarter's sales record, etc. Against this background, it perhaps seems quite natural to launch a problem-solving discussion of "people" issues from a base of tabulated, quantitative data whose accuracy is attested by an outside expert (just as the other data with which they work come from the comptroller, the quality control department, or the production control office). Alternative treatments, of a process consultation or laboratory training variety, may seem, on the other hand, to be a bit peculiar. They are asked to accept the observations of an outsider, who, they may feel, knows neither them, their business, nor their problems, and to accept them in off-the-top-of-the-head format, rather than in the more customary form of tabulated data.

Thus a credibility gap may ensue. It may also be enlarged by some of the change agent's more confronting interventions. It may be, for example, that a change agent who spends most of his work time in a confrontation mode becomes somewhat jaded, such that what, to client group members, is terribly confronting -- just barely within tolerable limits -- is to him a "cop-out," whereas what to him is confronting is to them an outrageous assault upon propriety.

Whichever of these factors operate, and to whatever degree, it may well be that they result in survey feedback's being perceived as more relevant to the world which they face and work within. Contrariwise, the other treatments may appear to be less obviously related to the reality which, though absent, is mentally with them in the conference room.

A final observation seems appropriate: the data presented in the preceding section of the report point rather strongly to the critical importance of organizational climate as a cause, or conditioner, of organizational change. The present report sheds little light upon those things

which affect it, and insufficient light upon its effect upon leadership behaviors. It would not seem to be an exaggeration, however, to say that stronger associations appear to exist between climate and leadership change than between treatment and leadership change. A subsequent report proposes to deal with this question in some depth, and, for this reason, a detailed discussion will not be undertaken here.

Summary

Data collected by use of the Survey of Organizations questionnaire from more than 17,000 respondents in 23 organizations which participated in the Intercompany Longitudinal Study are analyzed in terms of the organizational development treatments which intervened between pre and postmeasures. Four "experimental" treatments (Survey Feedback, Interpersonal Process Consultation, Task Process Consultation, and Laboratory Training) and two "control" treatments (Data Handback and No Treatment) are compared to determine their comparative associations with improved organizational functioning. The results indicate that Survey Feedback was associated with a significant frequency of improvement, that Interpersonal Process Consultation was associated with questionable improvement, that Task Process Consultation was associated with little or no change, and that Laboratory Training was associated with significant deterioration in organizational functioning. A discussion of these results contrasts them with anecdotal evidence concerning client system reactions and suggests that the reason for the observed superiority of survey feedback may lie in issues of extensiveness of coverage, degree of unfreezing, and perceived relevance. In addition, organizational climate emerges as a potentially extremely important conditioner, if not a cause, of organizational development success.

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