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ABSTRACT

This study was designed to examine the job-related interpersonal behavior changes of elementary school principals as a result of laboratory training. A before-and-after control-group design was used to determine if the principals who participated in the laboratory training experience changed their behavior in working with their staffs and if the socioemotional climate of their elementary schools changed subsequent to participation. The experimental group showed more change toward (1) being considerate to the individual needs of the staff, (2) use of tact, (3) a more collaborative approach to decision-making, and (4) increased leadership for improving staff performances. The staff of the experimental-group principals showed more change toward higher group morale, and their schools changed toward more open organizational climates. (DE)

THE EFFECTS OF LABORATORY TRAINING ON ELEMENTARY SCHOOL PRINCIPALS: AN EVALUATION

by

Terry A. Thomas

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CHAPTER I

BACKGROUND OF THE STUDY

Two trends are evident in relation to public school administration. The first of these trends is the increased emphasis on the importance of adequate interpersonal skills by administrators. The second is the increasing use of sensitivity or laboratory training as a means by which administrators can improve their human relations skills.

In the last few years more recognition has been given to human relations in educational organization. Previously, in training educational administrators, colleges have emphasized school buildings, personnel administration, finance, and other courses in school management. Now more emphasis is placed on the application of the behavioral sciences to educational problems. In the modern training programs, according to Griffiths, "The emphasis is away from bonds, buildings, and buses and toward the true content of administration--people."[1]

School administrators serving on the job have been increasingly concerned with improving their administrative skills and upgrading the performance of their teachers. A major concern of elementary school principals centers on human relations, or more specifically, working with other members of a group.[2] One of the popular means of re-education to which many of these administrators are turning is the sensitivity or laboratory training experience.

Several organizations, including school boards, have been sponsoring laboratory training programs available to school administrators and giving financial assistance to individuals and teams who wish to attend the laboratory sessions. The participation of these administrators in a five-day residential laboratory, such as one described in this study, constitutes a large investment in time and money. One frequently hears such questions as: "What do they get in return for this investment? What does the sponsoring school district receive in return for the financial aid they provide? Can laboratory training help a person be a better school administrator?

This study sought to discover what changes are evident in elementary school principals as a result of laboratory training and to determine what effect these

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[1]Daniel E. Griffiths, "New Forces in School Administration," Overview, Vol. 1 (January, 1960), p. 51.

[2]William H. Graves, Jr. and Nathan Stroller, Reports of Selected Elementary School Principals on their Professional Problems, (New York: CPEA-MAR Digest Series, Teachers College, Columbia University, 1954).

changes may have on the social-emotional climate of the elementary school organization. The specific questions requiring clarification were:

1. Does an elementary school principal change his behavior in working with his staff as a result of a five-day laboratory training experience?

2. Does the social-emotional climate of an elementary school change subsequent to the principal's participation in a five-day interpersonal relations laboratory?

Laboratory Training Description

The Technique

Laboratory training in the form of sensitivity training, human relations training, or T-grouping, is concerned with changing the human relations skills of individual participants. It is becoming an increasingly popular technique in the field of education.

Human relations training originated at Bethel, Maine, in 1947, under the auspices of the National Training Laboratory (NTL) and the National Educational Association (NEA). The originators, Bradford, Benne, and Lippitt, were interested in applying behavioral science to practice by trying out new methods of re-educating human behavior and improving social relationships. Organizational change and social change were their major areas of concern. In later application, emphasis shifted to personal change or self-insight. Now personal change and organizational development training have become the two principal orientations of the NTL.

Laboratory training and the unstructured T-group were both developed by NTL. The training laboratory is described as:

> . . . a temporary residential community shaped to the learning requirements of all its members. This community provides formal and informal social process events which support and expand learnings with the T-groups. . . . A training laboratory is a community dedicated to the stimulation and support of experimental learning and change.[3]

The T-group is an essential part of the training laboratory.

> A T-group is a relatively unstructured group in which individuals participate as learners. The data for learning . . . are the transactions among members, their own behavior in the

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[3]Leland P. Bradford, Jack R. Gibb, and Kenneth D. Benne, T-Group Theory and Laboratory Method, (New York: John Wiley and Sons, Inc., 1964), p. 2.

> group. . . . T-group members must establish a process of inquiry in which data about their own behaviors are collected and analyzed simultaneously with the experience which generates the behaviors. Each individual may learn about his own motives, feelings, and strategies in dealing with other persons. He learns also of the reactions he produces in others as he interacts with them. From the confrontation of intentions and effects, he locates barriers to full and autonomous functioning in his relations with others.[4]

While the T-group is the primary technique employed, a training laboratory also utilizes 1) planned activities involving interactions between individuals and/or between groups, 2) systematic and frequent feedback and analysis of information regarding what happened in the here-and-now and what effect it had, 3) dilemmas or problems for which "old ways" of behaving do not provide effective courses of action, and 4) generalization of concepts and values based on the analysis of direct experiences.[5] These focused exercises and activities are designed "to generate some specific behavior so that a particular area can be studied, or to practice some skill which is important for further learning."[6]

Objectives of Laboratory Training

The specific objectives of training laboratories vary widely from group to group depending on the trainers and the participants. Common elements usually include the following: 1) increased self-insight, 2) understanding the conditions which inhibit or facilitate effective group functioning, 3) understanding interpersonal operations in groups, and 4) developing skills for diagnosing individual, group, and organizational behavior.[7]

In addition to stated goals, there may be implicit in laboratory training what Bennis calls "meta-goals" or values which are "in the air" at every laboratory session. These are goals which "transcend and shape the articulated goals," and which may become internalized by the participants. They include: "expanded consciousness and recognition of choice," or a modification or restructuring of the assumptions which ordinarily are taken for granted; "a spirit of

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[4] Ibid., p. 1.

[5] Paul C. Buchanan, "Evaluating the Effectiveness of Laboratory Training in Industry," Explorations in Human Relations Training and Research, No. 1, (Washington, D.C., National Training Laboratories, NEA, 1965) pp. 1-2.

[6] Edgar H. Schein and Warren G. Bennis, eds., Personal and Organizational Change Through Group Methods: The Laboratory Approach, (New York: John Wiley and Sons, Inc., 1965) p. 20.

[7] Robert I. Tannenbaum, Irving R. Weschler, and Fred Massarik, Leadership and Organization: A Behavioral Science Approach, (New York: McGraw-Hill & Co., 1961), pp. 124-34.

inquiry," or tentativeness in reaching conclusions, and willingness to expose ideas, plans, and so on, to empirical testing; "authenticity in interpersonal relations," or openness in expression of feelings; and "a collaborative conception of the authority relationship," or redistribution of power.[8]

A Laboratory Experience in Oregon

An opportunity to study the effects of laboratory training on the interpersonal relations of principals with their teaching staffs was found through the Oregon Elementary School Principals Association. This organization, long active in sponsoring training laboratories and promoting this type of education within its membership, co-sponsored a laboratory in interpersonal relations with the Oregon Secondary Principals Association, the Northwest Regional Educational Laboratory, and the Oregon State Department of Education, at Pacific University, Forest Grove, Oregon, June 17-21, 1968. Registrations were accepted on a "first-come, first-served" basis. Presumably, participants enrolled in order to learn additional interpersonal skills that would make them more effective administrators.

The total cost of the laboratory experience was $102.50 for each participant. This charge included all expenses for tuition, room, and meals for the five days.

The laboratory training staff was secured through the Northwest Regional Educational Laboratory and was under the direction of Dr. John Wallen, Regional Coordinator for the National Training Laboratory--Institute for Applied Behavioral Science. Each member of the training staff was highly qualified in the areas of laboratory training and the behavioral sciences. In addition, each member had a wide background of professional experience in conducting training sessions of the type in this study.[9]

Objectives

The objectives of the laboratory, as stated in material handed to participants, were as follows:

1. To increase each person's understanding of:

    a. ways he sends messages of which he is not aware--how others see his actions differently from the way he sees them.

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[8]Warren G. Bennis, "Goals and Meta-Goals of Laboratory Training," Human Relations Training News, Vol. VI, No. 3, (1962), pp. 1-4.

[9]Appendix A contains a list of names and addresses of the nine trainers who were involved.

b. his tendency to misread other people's actions and his responses to messages others did not send.

c. how feelings influence behavior--his own as well as the behavior of others.

d. his silent assumptions (those he has been unaware of) that give rise to his feelings about other people's actions.

2. To increase each person's skill in:

a. understanding the feelings and ideas of others; using skillful checking responses to decrease damaging misunderstandings.

b. communicating his own feelings and ideas in ways that are maximally informing and minimally hurtful to others.

c. dealing with conflict and misunderstanding.

The laboratory training staff developed the schedule of activities to allow for flexibility and adaptability of theory sessions and procedures to meet the objectives of the laboratory.[10] A number of sources are available which suggest the general outlines of activities typically pursued at a human relations laboratory.[11] The laboratory did not deviate markedly from these outlines.

The T-group remained central in this laboratory as the major learning technology. Openness about present feelings, general "here-and-now" emphasis, encouragement toward using others in the group as "auxiliary nervous systems" or "social mirrors," reception of "feedback" relative to one's own behavior--these learning outcomes were emphasized.

Expected Outcomes

What kinds of behavior changes could one expect in elementary school principals as a result of laboratory training? It was hypothesized that an administrator who experienced laboratory training would henceforth be more tactful in dealing with his teaching staff. He would be sensitive to the needs of others, and would not run "rough shod" over people's feelings. Because he

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[10] Appendix A contains the Schedule of Activities included in the training laboratory.

[11] Especially useful references are: Bradford, Gibb and Benne, T-Group Theory, pp. 15-80; Schein and Bennis, "Personnel and Organizational Change," pp. 10-28 and 98-106; Irvin R. Weschler and Jerome Reisel, Inside a Sensitivity Training Group, (Institute of Industrial Relations, University of California, 1960); Bennis, Changing Organizations, pp. 131-66; and Alfred I. Marrow, Behind the Executive Mask: Greater Managerial Competence Through Deeper Self-Understanding, (New York: American Management Association, 1964).

would feel less threatened, he would find it easier and more desirable to develop close personal relationships with his staff. Instead of being coolly formal, relying on status differences to influence his staff members, he would tend to be aware of their individual differences and willing to consider them as professional colleagues rather than as subordinates.

He would also find himself able to communicate more effectively than before, a communication involving skillful speaking as well as effective listening. His staff members would always feel free to bring in any problems that arise--personal or professional. The principal would also be more effective in his attempts to improve the quality of staff performance. Teachers would be involved in making policy decisions for their school.

Several effects of this behavior on the whole school organization could be expected. The teachers would tend to accept the goals of the organization more fully and to work more effectively toward the accomplishment of these goals. The staff, as a group, would become more cohesive, and its members would work more closely together. They would find satisfaction both in fulfilling their social needs and in the accomplishment of their tasks. The feeling of mutual trust would enable them to view many aspects of their responsibilities as necessary and important to the accomplishment of the school's objectives. In short, they would have a higher level of morale than before. The social-emotional climate would become more open to innovation and change. Such a school organization would be better able to provide for the education of young people.

The behavioral changes described above were used as a basis for developing specific hypotheses. The hypothesized changes were seen as logical outcomes of such a five-day laboratory and were, at the same time, compatible with the job of an elementary school principal.

Changes in the interpersonal behavior of elementary school principals as a result of laboratory training were hypothesized as follows:

Hypothesis 1: less status emphasis

Hypothesis 2: more effective communication

Hypothesis 3: less directiveness and dominance

Hypothesis 4: more consideration given to the staff

Hypothesis 5: more use of tact in dealing with others

Hypothesis 6: a more collaborative approach to decision-making

Hypothesis 7: more leadership directed toward improving the quality of staff performances

Changes in the social-emotional climate of the elementary school organization as a result of the principal's participation in laboratory training were hypothesized thus:

Hypothesis 8: greater group cohesiveness

Hypothesis 9: higher staff morale

Hypothesis 10: staff perception of administration as being less hindering

Hypothesis 11: a more open organizational climate.

Measuring Instruments

Organizational Climate Descriptive Questionnaire

The Organizational Climate Descriptive Questionnaire, as developed by Halpin and Croft, consists of eight subtests. Four of these subtests pertain to the principal's behavior and four to the teachers' behavior. The dimensions of the principal's behavior are:

1. Aloofness. The impersonal or formal character of the principal who operates on the basis of rules rather than informal face-to-face situation.

2. Production Emphasis. Highly directive and "bossy" attitude, insensitive to staff feelings.

3. Thrust. Attempt to motivate the organization by the example which he personally sets.

4. Consideration. Treatment of teachers in such a way that they feel a sense of social satisfaction.

The dimensions of teacher behavior are:

1. Disengagement. The teacher's tendency to do things without commitment to the task.

2. Hindrance. The feeling that the leadership of the principal interferes with the work of the staff.

3. Esprit. Satisfaction of social expectations along with the sense of accomplishment.

4. Intimacy. A group closeness in isolation of task accomplishment.[12]

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[12]Andrew W. Halpin and Dan B. Croft, The Organizational Climate of Schools, (Chicago: Midwest Administration Center, University of Chicago, 1963), pp. 40-41. (Subtest items of the OCDQ used in this study are included in Appendix C.)

Seven of the eight subtests of the Organizational Climate Descriptive Questionnaire (OCDQ) were selected as instruments to collect data for this study. The subtests Aloofness, Thrust, Production Emphasis, and Consideration were used to test Hypotheses 1, 2, 3, and 4. Low scores in Aloofness and Production Emphasis and higher scores in Thrust and Consideration were hypothesized for the experimental group after training.

The subtests Disengagement, Esprit, and Hindrance were used to test Hypotheses 8, 9, and 10. These measures refer to teacher behaviors which were hypothesized as indirect outcomes of laboratory training. Low scores in Disengagement and Hindrance and higher scores in Esprit were hypothesized for the experimental group after training.

From the OCDQ subtests, authors Halpin and Croft have inductively derived six organizational climates of schools which can be ranked in order from "open" to "closed." The rankings of the climates on the openness score roughly parallel the scores which the schools receive on the subtest Esprit. According to Halpin and Croft, the most representative indicator of an open climate are high scores on the subtests Esprit and Thrust in combination with a low score on Disengagement.[13] The authors recommend the following formula for determining the degree of openness:

Openness Score = Esprit + Thrust - Disengagement

The open climate, as characterized by scores high on the subtests Esprit and Thrust, and low on Disengagement "describes an energetic, lively organization which is moving toward its goals, but which is also providing satisfaction for the individuals' social needs. Leadership acts emerge easily and appropriately as they are required. Contrariwise, the closed climate is marked by low scores on Esprit and Thrust, and by a high score on Disengagement. There seems to be nothing going on in this organization; they are met with apathy; they are not taken seriously by the group members. In short, morale is low, and the organization seems to be stagnant."[14]

The combined scores of the subtests Esprit, Thrust, and Disengagement were used to determine the degree of openness of each elementary school in the study. According to Hypothesis 11, the experimental group was expected to have higher scores for this measure after laboratory training.

The reliability of the OCDQ was reported in terms of internal consistency and coefficients of equivalence. Three methods of estimating reliability were used by Halpin and Croft: Spearman-Brown prophecy formula, correlation between odd- and even-numbered respondents, and communality estimates for three-factor rotational solution for the eight subtests. The reported coefficients ranged

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[13] Ibid., p. 98.

[14] Ibid., p. 50.

from a low of .26 to a high of .84.[15] The subtests Disengagement, Esprit, and Thrust, the basic factors for determining openness or closedness, registered the highest coefficients of reliability for all three methods of analysis.

Executive Professional Leadership

The instrument developed by Gross and Herriott to measure a principal's Executive Professional Leadership (EPL) is composed of 18 statements about the behavior of the principals in an effort to improve the quality of staff performance.[16] Teachers were asked to report how frequently their principal engaged in these 18 sorts of behavior. From the original 18 questions a 12-item H-technique Guttman scale was derived. This procedure reduced the information from a series of items to a single score which could be used as the definition of each principal's position on the EPL dimension. To obtain the "best estimate" of the central tendency of the EPL of each principal, the scale scores developed from the report of each of the teacher-observers in that school were averaged arithmetically. Reliability estimates for the EPL scale were reported in terms of its coefficient of reproducibility, one measure of the "goodness" of a Guttman scale. The EPL scale has a highly satisfactory coefficient of reproducibility of .978.[17]

The EPL scale was selected for this study because the behaviors comprising the instrument are considered vital to the effective administration of an elementary school when one accepts the proposition that upgrading the instructional program is one of the most important functions of an elementary school principal.

The Tact Dimension Scale

In the National Principalship Study, Gross and Herriott also developed a scale to measure the amount of social support a principal provided to his teaching staff.[18] Five items from this scale were used as measures of the principal's use of "tact" with his teachers. The teachers were asked to report how frequently their principal engaged in the following kinds of behavior:

1. Puts you at ease when you talk to him.

2. Makes those who work with him feel inferior to him.

3. Develops a "we feeling" in working with others.

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[15] Reliability coefficients of the OCDQ subtests are reported in Appendix C (p.44)

[16] Neal Gross and Robert E. Herriott, Staff Leadership in Public Schools: A Sociological Inquiry, (New York: John Wiley & Sons, 1965).

[17] Ibid., p. 24. (Operational definition of the EPL scale is included in Appendix D of this report.)

[18] Ibid., p. 155.

4. Develops a real interest in your welfare.

5. Rubs people the wrong way.

Each item in the "tact" dimension was examined separately. Validity and reliability estimates for these items were not available. These behaviors appeared to be important to sound interpersonal relations and could be expected to change as a result of the laboratory training. The changes hypothesized in this study were toward higher scores for items 1, 3, and 4, and toward lower scores for items 2 and 5.

The Dimension of Collaborative Decision-Making

The amount of change in the dimension of shared decision-making to test Hypothesis 7 was determined by examining responses to the question, "To what extent does your principal share with teachers the following responsibilities?

1. For determining the minimum level of satisfactory student performance.

2. For evaluating how good a job the school is doing.

3. For determining how teachers should be supervised.

4. For developing a policy for handling student discipline problems."

Each item in this dimension is examined separately to determine if significant changes occurred as a result of laboratory training.

CHAPTER II

DESIGN OF THE STUDY

This study was designed to examine the job-related interpersonal behavior changes of elementary school principals as a result of laboratory training. A "before-and-after" control-group design was used to determine if hypothesized behavioral changes occurred in the principals who participated in the laboratory training experience. Experimental and control group subjects were matched on three variables relevant to their job situations.

Participants

In March, 1968, prior to the laboratory session, the investigator contacted the Oregon Elementary School Principals Association. This organization was in charge of all publicity, pre-registration, and financial arrangements for the Educators' Laboratory in Interpersonal Relations. The Executive Board of the Association agreed to allow the investigator to conduct this study of the results of the laboratory.

The executive secretary of the Oregon Elementary School Principals Association furnished the investigator with the names and addresses of all elementary school principals who pre-registered for the laboratory.

The pre-registrants were contacted by letter and invited to participate in a follow-up study of the laboratory. Eighteen elementary school principals who had pre-registered for the laboratory agreed to participate in this study. These 18 principals supplied a list of names and addresses of all teachers who were planning to remain in their schools for the following year.

Each principal also completed a personal data sheet with the following information to be used for matching criteria: 1) the number of teachers in the school; 2) the years of experience in the present principalship; 3) total years of experience in educational administration; and 4) the principal's age.

Principals who had not pre-registered for the laboratory were also invited to participate in the study. Invitations were mailed to a wide assortment of elementary school principals selected from the 1967-68 Oregon School Directory on the basis of the size of their schools. Those who agreed to participate in the study also completed the personal data sheet with information used in matching and provided a list of their teachers' names and addresses. From these principals, a matched control group was selected. It was possible to identify a control group of elementary school principals matched with the experimental group on the first three criteria mentioned above.

The sample size decreased to 14 matched pairs when four principals changed jobs during the summer. These job changes were intra-district changes in assignment.

Collection of Data

Before-Measures

The teachers, whose names and home addresses were supplied by the principals, were mailed a questionnaire in late May, 1968. A cover letter requested their cooperation and explained that the study would examine the elementary school organizational climate and administrative behavior. The teachers were assured that all responses would be held in strict confidence.

A total of 294 questionnaires were mailed to teachers of the target schools in late May. After a follow-up letter to remind those who had not yet responded, a total return of 234 usable questionnaires were received. The return rate of 79.6 percent was considered satisfactory. It was thought that with this return rate, one could be fairly confident that the teachers of the schools were well represented. Of the 28 schools involved in the study, a mean of 8.36 teachers responded for each school. The range was from a low of four to a high of 13 teacher respondents.

Each questionnaire was coded with a number that identified the school and the individual teacher to whom it had been sent. Teachers who did not return the questionnaire or who were disqualified by reason of not being full-time, certificated staff members were eliminated from the study. In February, 1969, an identical questionnaire was sent to those teachers who had completed the before-measure.

After-Measures

In October, 1968, each participating elementary school principal provided the investigator with an updated list of names and current addresses of the teachers who had returned for the 1968-69 school year. All teachers who were included in the updated mailing lists provided by the principals and who had completed the before-measure were sent another questionnaire in February, 1969, eight months after the laboratory training program. Waiting eight months was an important aspect of this study for two reasons: the period of time would allow the principals' behaviors to be observed, and the questionnaire would tap only those training effects that were durable enough to survive the waning of immediate post-training enthusiasm.

From the lists, a total of 219 teachers were mailed final questionnaires. Of these, a total of 204 were returned in usable form. The range was from a low of three teacher-respondents to a high of 11 teacher-respondents. The mean number of teacher-respondents per school was 7.3.

Table I summarizes the distribution of the 28 elementary schools by percentage of returning teachers who completed both before- and after-measures.

The investigator accepted after-measures only from those teachers who completed the before-measure. In this way the data contained pairs of before- and after-measures from the same sources, thus reducing the variance attributed to the teacher-observers and emphasizing the variance of the principals' behaviors due to change.

TABLE I

PERCENTAGE OF RETURNING TEACHERS WHO COMPLETED BEFORE AND AFTER QUESTIONNAIRES

Percent of Returning Teachers Who Served as Observers	School Frequency	Per-Cent	Cumulative Percent
90-100%	2	7%	7%
80- 89	3	11	18
70- 79	6	21.5	39.5
60- 69	4	14	53.5
50- 59	5	18	71.5
40- 49	6	21.5	93
30- 39	2	7	100
Total	28 schools		

Treatment of Data

Hovland, Lumsdaine, and Sheffield propose a method for analyzing data for a before-after experiment:

> . . . in an experiment the significance of a before-after change in the experimental group is usually not the important consideration. Rather, the important consideration is the comparison of the changes in the experimental group and the control group. In a before-after study, events other than the experimental variable which intervene between the first and second measurement can produce changes, so that a change in the experimental group may be accompanied by a corresponding change in the control group, indicating that the change in the experimental group was due to factors other than the experimental variable. Thus the test of significance must demonstrate a reliable difference between the changes in the experimental group and in the control group.[1]

According to these authors, it is not sufficient to show that a reliable change occurred in the experimental group and that a reliable change did not occur in the control group, for this reason: a zero difference, or a small but unreliable difference in the opposite direction in the control group, while it fails to prove that a change took place in the control group, does not prove that no change took place in the control.

Using the differences between the changes of the two groups also has the advantage of taking into account any initial differences between the two groups on the before-measure.

> . . . the before measurement determines any initial population differences, which differences are subtracted out when the effects of the experimental variable are gauged from the differences between the before-to-after changes in the two samples.[2]

In this study, responses to the before-after questionnaire were scored and punched on data cards. The cards were processed by an IBM 1130 computer to provide means, variances, and t-ratios comparing changes in the experimental group and in the control group in a matched-pair design. The following equation expresses the t-statistic used to test the differences between the changes of the two groups:

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[1]Carl I. Hovland, Arthur A. Lumsdaine, and Fred D. Sheffield, Experiments on Mass Communication, Vol. III of Studies in Social Psychology in World War II, (4 vols.; Princeton, New Jersey: Princeton University Press, 1949), p. 320.

[2]Ibid., p. 324.

$$t = \frac{M_d - E\,(M_d)}{\sqrt{\frac{\Sigma D^2}{N} - M_d^2}\left(\frac{1}{N-1}\right)} \qquad df = N - 1$$

Where: N = the number of differences (pairs) in the sample.

M_d = the mean of the sample of difference values.

D = the difference between a matched pair.[3]

An alpha level of .05 on a one-tailed test was used. In the present case, the null hypothesis was that whatever changes took place were not different for the control and experimental groups.

The author was aware that circumstances imposed definite limitations on this study.[4] He was also aware of the numerous factors influencing the behavior of the experimental group of elementary school principals. For example, in addition to the five-day laboratory training experience itself, there were such factors as travel, advanced study, maturation, and changes in staff. However, it was assumed that these factors affected the experimental group and the control group equally. Both groups could therefore be expected to change from the before-measure to the after-measure, a time period of about nine months. It was assumed for this study that any systematic differences between the changes of the two groups were due to the fact that the experimental-group principals attended the five-day training laboratory.

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[3]William L. Hays, Statistics, (New York: Holt, Rinehart and Winston, 1963), p. 322.

[4]See Terrance A. Thomas, "The Effects of Laboratory Training on the Interpersonal Relations of Elementary School Principals with their Teaching Staff," Unpublished doctoral dissertation, University of Oregon, 1969.

CHAPTER III

ANALYSIS OF DATA

In assessing the effects of the five-day interpersonal relations laboratory on the job-related behavior of elementary school principals, the study sought answers to the following specific questions:

1. Does an elementary school principal change his behavior in working with his staff as a result of a five-day laboratory experience?

2. Does the social-emotional climate of an elementary school change subsequent to the principal's participation in a five-day interpersonal relations laboratory?

Eleven hypotheses were stated, seven referring to the behavior of the principals and four referring to the social-emotional climate of the school.

Principals' Behavioral Changes

Table II summarizes the differences between the changes of the two groups of matched pairs on five variables related to the principals' behavior. Columns 1, 2, and 3, which refer to variables status emphasis, communication, and dominance, show that no significant differences were found between the changes of the two groups on these variables. Accordingly, Hypotheses 1, 2, and 3 cannot be accepted on the basis of these data.

Consideration

The variable consideration did show a significant difference between the changes of the matched pairs of the experimental and control groups. A t-ratio of 2.1223 (Degrees of Freedom = 13) was high enough to be significant at the .05 level. Support was therefore given to Hypothesis 9, that the experimental-group principals would show a change toward being more considerate of their staffs.

Leadership

Hypothesis 7 stated that the experimental-group principals would display more changes in leadership directed toward improving the quality of staff performances. Table II also shows the analysis of the data pertaining to the

TABLE II

DIFFERENCES BETWEEN THE CHANGES IN BEHAVIOR--
EXPERIMENTAL-GROUP AND CONTROL-GROUP

	Variables				
	1	2	3	4	7
Mean Difference Between Changes of Matched-Pairs	.0204	.1237	-.1225	.3262	.5324
Estimated Standard Error	.1015	.1862	.0979	.1537	.1501
T-Ratio	.2010	.6643	-1.2513	2.1223**	3.5470**

** = Significant .05 level.
Degrees of Freedom = 13
Variables: 1 = Status emphasis
2 = Communication
3 = Directiveness and dominance
4 = Consideration
7 = Executive Professional Leadership (EPL)
Variables are numbered to correspond with the hypotheses.

changes in Executive Professional Leadership (EPL) of the principals. The last column of Table II shows a mean difference of .5324 (t = 3.5470) for EPL. This value was significant at the .05 level and support was given to Hypothesis 7.

Tact

Hypothesis 5 stated that the experimental group principals would show a positive change in their use of tact. Five items on the questionnaire were used to collect data pertaining to changes in the tact variable. A total-tact score was derived by finding the arithmetic mean of the five items for each school. As indicated at the bottom of Table III, items three and five express behaviors which illustrate low tact. These low-tact items were scored negatively before the arithmetic means were developed to give a total-tact score that was consistent with the meaning of the items. The differences between the changes in total-tact of the matched-pairs of principals were significant at the .05 level.

TABLE III

DIFFERENCES BETWEEN THE CHANGES IN TACT--EXPERIMENTAL AND CONTROL GROUP

	Total Tact	Item #1	Item #2	Item #3	Item #4	Item #5
Mean Differences between Changes	.2993	.4781	.2492	-.2270	.2891	.0768
Estimated Standard Error	.0937	.1958	.1209	.1736	.1452	.1571
T-Ratio	3.194*	2.4417*	2.0612*	-1.3076	1.9924*	-.4888

* = Significant at .05 level
Degrees of Freedom = 13

TACT Items: "To what extent does your principal engage in the following kinds of behavior?

1. Develops a real interest in your welfare.
2. Puts you at ease when you talk to him.
3. Makes those who work with him feel inferior to him.
4. Develops a 'we feeling' in working with others.
5. Rubs people the wrong way."

An examination of each of the tact items is also presented in Table III. As shown in the table, tact item one, "develops a real interest in your welfare," reached the level of significance with a t-ratio of 2.4417. Item two, "puts you at ease when you talk to him," also had a significant t-ratio (t = 2.0612). The other significant item, "develops a 'we feeling' in working with others," had a t-ratio of 1.9924. Three of the five tact items were significant at the .05 level. Tact items three and five did not show significant differences between changes of the two groups.

Collaborative Decision-Making

Hypothesis 6 stated that the experimental-group principals would change toward a collaborative approach to decision-making. Four items pertaining to this dimension were in the questionnaire. The content of these items is indicated at the bottom of Table IV.

An analysis of each of the four items, summarized in the table, shows some positive differences between the changes of the two groups. The t-ratio of .9807 for item one was not statistically significant, nor were the t-ratios for items two and four (1.4825 and 1.1967, respectively). Of the four collaborative decision-making items, only item three was statistically significant. The t-ratio of 2.0066 for item three was sufficient to be significant at the .05 level. The last column of Table IV indicates that the combined Collaborative Decision-Making differences were not statistically significant at the prescribed .05 level. Apparently, the experimental-group principals changed toward sharing with the staff the responsibility for determining how the teachers should be supervised.

Social-Emotional Climate Changes

Changes in the principals' behavior as a result of laboratory training were expected to effect changes in the social-emotional climate among the elementary school faculty members. Specific changes were hypothesized in the levels of staff cohesiveness, morale, hindrance, and in the organizational climate. Each of these hypotheses was tested for significant differences between the changes of staffs in the matched schools.

Table V shows the differences between the changes of experimental and control group staffs on the variables cohesiveness, morale, and hindrance. As can be seen on Table V, only the variable of staff morale reached a significant level. A t-ratio of 2.1180 was large enough to be statistically significant at the .05 level. Support was provided by these data for accepting Hypothesis 10.

The variables of staff cohesiveness and hindrance did not reach statistical significance. Hypotheses pertaining to these variables could not be accepted.

TABLE IV

DIFFERENCES BETWEEN CHANGES IN COLLABORATIVE DECISION-MAKING--
EXPERIMENTAL AND CONTROL GROUP

	Item #1	Item #2	Item #3	Item #4	Combined Total
Mean Difference between Changes	.1930	.3592	.4286	.2853	.2101
Estimated Standard Error	.1968	.2423	.2136	.2384	.1931
T-Ratio	.9807	1.4825	2.0066*	1.1967	1.0880

Degrees of Freedom = 13
* = Significant at .05 level

Collaborative Decision-Making Items: "To what extent does your principal share with teachers the following responsibilities?

1. For determining the minimum level of satisfactory student performance.
2. For evaluating how good a job the school is doing.
3. For determining how teachers should be supervised.
4. For developing a policy for handling student discipline.

TABLE V

SOCIAL-EMOTIONAL CLIMATE CHANGES--
EXPERIMENTAL AND CONTROL GROUP STAFFS

	Variables		
	Staff Cohesiveness 9	Staff Morale 10	Hindrance 11
Mean Difference	-.0354	.2046	-.0254
Estimated Standard Error	.0599	.0966	.0857
T-Ratio	-.5810	2.1180*	-.3132

Degrees of Freedom = 13
* = Significant at .05 level

School Organizational Climate

Hypothesis 11 stated that the school organizational climates of the experimental group would change toward being more open. An open organizational climate reflects a school which is moving toward its goals but which also is providing satisfaction for the staff members' individual needs. Indicators of the open climate are scores high on the subtests Esprit and Thrust and low on the subtest Disengagement of the OCDQ. These subtests correspond to the variables morale, communication, and group cohesiveness, which were used in this study. An openness score was determined for each school, both before and after, by adding the scores for morale and communication, and subtracting from that sum the score for group cohesiveness. The organizational-climate scores and tests for significance are found in Table VI, where it is shown that the climates of the control schools changed toward less openness, while those of the experimental schools changed toward more openness. At the bottom of Table VI are shown the differences between the changes tested for significance on a matched-pair design. The mean difference of .3236 was sufficient to reach a significant level ($t = 1.8544$). Support for Hypothesis 11, that the experimental schools changed toward more open climates, was provided by these data.

TABLE VI

ORGANIZATIONAL CLIMATE DISTRIBUTION AND TEST OF DIFFERENCES

Matched-Pair	Control Schools			Experimental Schools		
	Pre	Post	Difference	Pre	Post	Difference
1	4.272	3.726	-.546	3.443	3.999	.556
2	3.500	3.250	-.250	3.665	2.334	-1.331
3	4.600	3.800	-.800	4.667	4.833	.166
4	2.666	3.000	.334	3.818	4.000	.182
5	4.600	4.800	.200	3.200	3.600	.400
6	2.600	2.400	-.200	3.250	4.250	1.000
7	3.625	3.500	-.125	3.000	3.800	.800
8	4.399	4.700	.301	5.111	5.333	.222
9	4.286	4.428	.142	3.858	3.714	-.144
10	3.500	3.250	-.250	3.666	3.499	-.167
11	3.856	3.570	-.286	4.000	3.625	-.375
12	3.750	3.750	.000	3.500	4.166	.666
13	4.250	4.500	.250	1.999	3.110	1.111
14	3.375	2.875	-.500	2.999	2.713	-.286
			-1.730			2.800

Difference between the changes in climate

Mean Diff.	.3236
Est. S. E.	.1745
t-Ratio	1.8544*

* = Significant at .05 level
Degrees of Freedom = 13

An Unexpected Finding

During the process of analyzing these data, an unexpected point became evident, which indicated that the control group moved toward lower scores on several variables in before-to-after measures. To examine these changes, the mean scores of the control and experimental groups were arrayed in tabular form. Table VII provides the result of this procedure. Observations were made regarding these data.

1. The control group scored consistently "better" than the experimental group on 19 of 20 items on the before-measure. ("Better" refers to a more desirable score for a variable. For six of the 20 variables, those marked with (n) on Table VII, a lower score was considered more desirable.

2. The control group led in 10 of the 20 variables on the after-measure. The experimental group was "better" in 10 of the 20 variables.

3. Examination of the differences, as shown in columns five and eight in Table VII, indicates that the experimental group changed in a desirable direction--i.e. toward "better" scores--on every variable, while the control group changed toward less desirable scores on all but two variables, dominance and cohesion.

Summary of the Findings

Eight months elapsed after the laboratory before the after-measure was conducted. The time delay was considered necessary to allow any behavioral changes to become observable. Also, the time span allowed for the waning of immediate post-training enthusiasm--the after-measure tapped only the durable changes. Differences between the changes of the control and experimental groups were analyzed by a matched-pairs t-test.

The result of the analysis procedure provided support for the following hypotheses:

Hypothesis 4--The experimental-group principals showed more positive change toward being considerate to the individual needs of the staff.

Hypothesis 5--The experimental-group principals showed more change toward the use of tact.

Hypothesis 6--The experimental group principals showed more change toward a collaborative approach to decision-making in the area of deciding how the teachers should be supervised.

Hypothesis 7--The experimental-group principals display increased leadership directed toward improving the quality of staff performances (EPL).

TABLE VII

MEAN SCORES AND DIFFERENCES OF BOTH GROUPS ON ALL VARIABLES TESTED

Hypothesis Number	Variable Label	Experimental			Control		
		Before	After	Differences	Before	After	Differences
1 (n)	Status	1.768	1.757	-.011	1.375	1.584	.209
2	Communication	2.529	2.567	.048	2.607	2.529	-.078
3 (n)	Dominance	1.812	1.659	-.153	1.668	1.660	-.008
4	Consideration	1.972	2.048	.076**	2.140	1.873	-.267
5	Tact:						
	Total Tact	4.768	4.884	.116**	5.195	4.975	-.220
	Item #1	4.303	4.504	.201**	4.765	4.450	-.315
	Item #2	4.932	4.998	.066**	5.384	5.129	-.255
(n)	Item #3	1.717	1.544	-.173	1.320	1.365	.045
	Item #4	4.468	4.618	.150**	4.873	4.735	-.138
(n)	Item #5	2.268	2.158	-.110	1.876	2.076	.200
6	Decision-Making:						
	Total	3.471	3.637	.166	3.991	3.875	-.116
	Item #1	3.545	3.613	.078	4.109	3.995	-.104
	Item #2	3.792	3.936	.144	4.314	4.163	-.252
	Item #3	2.907	3.179	.272**	3.332	3.244	-.088
	Item #4	3.884	4.129	.245	4.277	4.094	-.183
7	EPL	1.584	1.871	.287**	1.837	1.592	-.245
8 (n)	Cohesion	1.181	1.123	-.058	1.080	1.050	-.030
9	Morale	2.439	2.582	.143**	2.599	2.537	-.062
10 (n)	Hindrance	1.385	1.365	-.020	1.401	1.408	.007
11	Climate	3.584	3.784	.200**	3.806	3.682	-.124

(n) Lower scores on these variables considered "better."
** Difference between changes of matched pairs was significant at .05.

Hypothesis 9--The staff of the experimental-group principals showed more change toward higher group morale.

Hypothesis 11--The experimental-group principals' schools changed toward more open organizational climates.

An unexpected finding in this study was that the control group changed toward less desirable scores on 18 variables from before-to-after measures. During the same period of time, the experimental group changed toward more desirable scores on all 20 variables.

CHAPTER IV

INTERPRETATIONS AND RECOMMENDATIONS

Interpretations

Due to the nature and design of this study, it was not possible for the investigator to select a random sample or to randomly assign subjects to the treatment groups. Generalizations made beyond the limits of the specific sample involved must be made with caution. However, certain conclusions regarding the effects of the specific laboratory on the sample of elementary principals involved are suggested.

The findings indicated that the elementary principals who participated in the five-day laboratory in interpersonal relations held at Pacific University did change certain aspects of their behavior in working with their staffs. As a group, they changed more toward being considerate of their staffs than did the matched control group. They also demonstrated more change in the use of tact in dealing with others. These two changes are interpreted as indicating that the group of elementary school principals who attended the laboratory training were more aware of the conditions which facilitate effective group functioning and altered their interpersonal behavior with the school staff.

The principals were more willing to share decision-making in the area of deciding how the teachers should be supervised. This would indicate that they felt less threatened by their teachers and were more willing to engage in democratic decision-making processes.

Being more tactful, more considerate, and more democratic with the staff could help a principal overcome the interpersonal barriers associated with helping a teacher improve his teaching performance. The experimental group demonstrated more change toward higher Executive Professional Leadership (EPL) than did the control group. Evidence from the Gross and Herriott study indicates that a principal's EPL is closely associated with both teacher and pupil performances.[1]

Does an elementary school principal change his behavior as a result of a five-day training laboratory? In answer to the first question posed by this study, the findings indicated that not only did the principals' interpersonal behaviors change as a result of laboratory training, but the changes were desirable both administratively and educationally.

In answer to the second question of the study with regard to school climate, the impact of the behavioral changes of the principals was evident. The

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[1]Gross and Herriott, Staff Leadership, p. 22.

experimental-group staffs displayed more change toward higher group morale and toward more open organizational climates in their schools. The staffs were deriving more satisfaction from their work and were also more open to accept educational change.

The findings are interpreted as supporting the use of laboratory training as one means of effecting change in the interpersonal relations of elementary school principals with their teaching staff. The changes may have important, positive consequences for the quality of the educational program provided in an elementary school.

An unexpected finding in this study was that the control group showed a decline in 18 of the 20 variables measured during the period of evaluation--from May, 1968, to March, 1969; i.e., they tended to change toward less desirable scores on nearly all the variables measured. This finding was unexpected because it had been assumed that additional experience, travel, and summer school (if attended) would have had positive rather than negative influence on the control group.

Recommendations

Laboratory Training

The findings indicated that laboratory training in interpersonal relations is an effective means of improving principal-staff relationships in elementary school. In the belief that these principal-staff relationships are a key to providing a sound education for elementary school children, the following recommendations are submitted. All are based on the writer's conviction that the laboratory training of elementary school principals does have a positive effect on the quality of the educational program in an elementary school.

1. Principals' associations, state departments of education, and local districts should be encouraged to continue sponsoring training laboratories for school administrators.

2. Universities and colleges should consider the wider use of laboratory training methods in educational programs for elementary school principals.

3. Carefully controlled research should follow up each laboratory to determine which activities and what laboratory length provide optimal learning.

4. Consideration should be given to conducting an educators' laboratory in August rather than in June. It is possible that a laboratory held just prior to the opening of school would be even more effective in changing behavior than a laboratory held just after the school year ends.

Further Research

In the course of this study several questions were raised which could serve as the basis for further research:

1. What effect do increased leadership and subsequent increased staff morale have on pupil learning, pupil self-concepts, or pupil attitudes toward school?

2. Do teachers teach differently as a result of a principal's increased efforts to improve the quality of staff performance?

3. What other variables besides laboratory training can produce changes in the behavior of elementary school principals and in the social-emotional climate of their schools?

The present study had several inherent weaknesses which should be strengthened in any future research:

1. The subjects could not be randomly selected or assigned for this study. Overcoming this weakness would increase the value of the findings.

2. More controls should be applied to the measuring aspect of the study. The before-measures and after-measures should be carefully timed. A before-measure completed in May should be followed with an after-measure in May of the following year. Additional measures taken during the year could be helpful. Also, measures should be administered to a faculty group in one controlled sitting, if possible.

The present study provided some evidence that laboratory training in interpersonal relations experienced by an elementary school principal does have an effect on his behavior with his staff and on the social-emotional climate of the school. More research is needed to confirm that elementary school principals who are involved in such laboratory training undergo behavioral changes, and that these changes can improve the learning climate of a school.

APPENDIXES

APPENDIX A

TRAINING STAFF FOR THE LABORATORY IN INTERPERSONAL RELATIONS

June 17-21, 1968

Forest Grove, Oregon

William H. Barber, Ph.D.
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(Dean of School of Education)

Bernard Corman, Ph.D.
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(Professor and Head of Department of Educational Psychology)

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Ernest G. Fiedler, Ph.D.
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Washington Education Association
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(Assistant Executive Secretary for Professional Services)

Mrs. Helen S. Ross, M.D.H.
Berkeley Health Department
2105 Grove Street
Berkeley, California
(Lecturer, School of Public Health, University of California, and Mental Health Education Consultant, City of Berkeley)

Richard Schmuck, Ph.D.
University of Oregon
Eugene, Oregon 97403
(Research Associate, Professor of Psycho-Educational Studies, Center for the Advanced Study of Educational Administration)

John Brooks Thomas
University of British Columbia
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(Director, International House)

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(Acting Regional Coordinator, NTL--Institute for Applied Behavioral Science)

Positions and addresses are current as of June, 1968.

APPENDIX B

FIVE-DAY LABORATORY IN INTERPERSONAL RELATIONS
Forest Grove, Oregon
June 17-21, 1968
Daily Schedule

The overall design of the laboratory as developed by the staff was as follows:

SCHEDULE:

Monday	9:00 a.m.	Introduction to the Laboratory and assignments to T-groups. (John Wallen)
	9:30-10:30	Five-square Puzzle. (Dick Schmuck)
	11:00-12:00	Force Field Analysis and identification of personal learning goals for the week. (Bob Crosby)
	1:30- 4:00 p.m.	T-Groups.
	7:00- 9:30	T-Groups cluster in fish-bowl design, cross-group pairs talk for five minutes. Innergroup interactions for 15 minutes observed by outer. Cross-group pairs again talk now giving feedback on what the observer has seen. Then the groups reverse and the outergroup becomes the inner-group.
Tuesday	8:00- 9:30 a.m.	T-Groups.
	9:30-10:15	Introduction of Paraphrasing and Paraphrase Practice. (Don Murray)
	10:45-12:00	T-Groups.
	3:00- 4:00 p.m.	Individuals read "Emotions as Problems"--select most personally relevant or personally significant paragraphs for them and then discuss these and the bases for their choice in trios. Last half hour, introduction of non-verbal exercises: a) Body awareness b) Total mirroring c) In T-groups large circle moving into the center and becoming closer and closer and closer, then returning to the large circle, meanwhile maintaining a back and forth rocking movement. (Bill Barber)

	4:00- 5:30	T-Group.
	7:00	Individuals read "The Interpersonal Gap," 30 minute question period of John Wallen.
	7:45- 9:30	T-Group.
Wednesday	8:00- 9:30 a.m.	T-Group.
	9:30-10:45	Exercises in the communication of feelings. (Jack Thomas)
	10:45-12:00	T-Groups.
	1:30 p.m.	8-step exercise in preparing and giving feedback. (Bob Crosby)
	2:45- 4:00	T-Group.
	4:00 p.m. Wednesday	8:00 a.m. Thursday - Free Time
Thursday	8:00- 9:30 a.m.	T-Group.
	9:30-10:30	Lecture--"The Threat-Challenge Model." (Ernie Fiedler)
	10:45-12:00	T-Group.
	3:00- 3:30 p.m.	Lecture--"Interpersonal Relationships": The Vertical and Horizontal Dimensions. Constructive Openness and Talking about Your Relationship with Another Person. (John Wallen)
	3:30- 4:15	Practice in Constructive Openness in Pairs.
	4:15- 5:30	T-Group.
	7:00- 9:30	T-Group.
Friday	8:00-12:00 a.m.	T-Group.
	1:30- 3:00 p.m.	T-Group.
	3:30- 4:00	One for the road--coffee, cookies--goodbyes.

APPENDIX C

CONTENT OF OCDQ SUBTEST ITEMS USED TO MEASURE BEHAVIORAL CHANGES IN THIS STUDY

Directions	Response Alternatives	
Please indicate to what extent each of these descriptions characterize <u>your school</u>.	4 = Frequently	2 = Sometimes
	3 = Often	1 = Never

Principal's Behavior

I. <u>Consideration</u>

28.* The principal goes out of his way to help teachers.
29. The principal helps teachers solve personal problems.
33. The principal does personal favors for teachers.
37. The principal stays after school to help teachers finish their work.
42. The principal helps staff members settle minor differences.
49. The principal tries to get better salaries for teachers.

II. <u>Status Emphasis</u>

34. Teachers eat lunch by themselves in their own classrooms.
40. Teachers are contacted by the principal each day.
44. Teachers leave the grounds during the school day.
51. The rules set by the principal are never questioned.
54. The principal runs the faculty meeting like a business conference.
57. Faculty meetings are organized according to a tight agenda.
58. Faculty meetings are mainly principal-report meetings.
63. Teachers are informed of the results of a supervisor's visit.

III. <u>Directiveness and Dominance</u>

39. The principal makes all class scheduling decisions.
43. The principal schedules the work for the teachers.
46. The principal corrects teachers' mistakes.
47. The principal talks a great deal.
50. Extra duty for teachers is posted conspicuously.
51. The principal checks the subject matter ability of teachers.
64. The principal insures that teachers work to their full capacity.

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*Items are numbered according to their position in the questionnaire.

IV. Communication

32. The principal sets an example by working hard himself.
36. The principal uses constructive criticism.
41. The principal is well prepared when he speaks at school functions.
48. The principal explains his reason for criticism to teachers.
53. The principal makes an effort to understand.
55. The principal is in the building before teachers arrive.
59. The principal tells teachers of new ideas he has run across.
62. The principal is easy to understand.

Teacher Behavior

V. Group Cohesiveness

2. The mannerisms of teachers at this school are annoying.
6. There is a minority group of teachers who always oppose the majority.
10. Teachers exert group pressure on non-conforming faculty members.
18. Teachers interrupt other faculty members who are talking in staff meetings.
22. Teachers ask nonsensical questions in faculty meetings.
26. Teachers ramble when they talk in faculty meetings.
30. Teachers at this school stay by themselves.
38. Teachers socialize together in small select groups.
60. Teachers talk about leaving the school system.

VI. Hindrance

4. Instructions for the operation of teaching aids are available.
8. Sufficient time is given to prepare administrative reports.
12. Administrative paper work is burdensome at this school.
16. Student progress reports require too much work.
20. Teachers have too many committee requirements.
24. Routine duties interfere with the job of teaching.

VII. Staff Morale

3. Teachers spend time after school with students who have individual problems.
11. In faculty meetings, there is the feeling of "let's get things done."
19. Most of the teachers here accept the faults of their colleagues.
21. There is considerable laughter when teachers gather informally.
27. Teachers at this school show much school spirit.
31. The teachers accomplish their work with great vim, vigor, and pleasure.
35. The morale of the teachers is high.

ESTIMATES OF INTERNAL CONSISTENCY AND OF EQUIVALENCE FOR THE EIGHT OCDQ SUBTESTS*

	Split-half Coefficient of Reliability, Corrected by the Spearman-Brown Formula.[a] (N = 1151)	Correlation between Scores of the Odd-Numbered and the Even-Numbered Respondents in Each School.[b] (N = 71)	Communality Estimates[c] for Three-Factor Rational Solution. (N = 1151)
1. Disengagement	.73	.59	.66
2. Hindrance	.68	.54	.44
3. Esprit	.75	.61	.73
4. Intimacy	.60	.49	.53
5. Aloofness	.26	.76	.72
6. Production Emphasis	.55	.73	.53
7. Thrust	.84	.75	.68
8. Consideration	.59	.63	.64

[a]Estimate of internal consistency.
[b]Estimate of equivalence.
[c]These are lower-bound, conservative estimates of equivalence.
*This table was duplicated from page 66 of Halpin and Croft's report, The Organizational Climate of Schools.

APPENDIX D

EPL ITEM CONTENT AND RESPONSE CATEGORIES

The Question	The Response Choices
To what extent does your principal engage in the following kinds of behavior?	6 = Always 5 = Almost Always 4 = Frequently 3 = Occasionally 2 = Almost Never 1 = Never

1.* Gives teachers the feeling that their work is an "important" activity.
3. Gives teachers the feeling that they can make significant contributions to improving classroom performance of their students.
7. Takes a strong interest in my professional development.

5. Makes teachers' meetings a valuable educational activity.
13. Helps eliminate weaknesses in his school.
8. Treats teachers as professional workers.

17. Helps teachers tc understand the sources of important problems they are facing.
18. Displays a strong interest in improving the quality of the educational program.
16. Brings to the attention of teachers educational literature that is of value to them in their work.

6. Has constructive suggestions to offer teachers in dealing with their major problems.
2. Gets teachers to upgrade their performance standards in their classrooms.
12. Maximizes the different skills found in his faculty.

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*Items are numbered according to their position in the 18-item research instrument.

OPERATIONAL DEFINITION OF EPL SCALE#
(N = 1,303)

Item Number*	Positive Response	Positive Marginal	Contrived Item Positive Marginal+	Contrived Item Error	Coefficient of Reproducibility
1	6,5,4	83%			
3	6,5,4	77% $\frac{2}{3}$	82.3%	1.27%	
7	6,5,4	73%			$CR = 1 - \frac{\Sigma e}{n(N)}$
5	6,5,4	62%			
13	6,5	60% $\frac{2}{3}$	60.6%	3.26%	
8	6	55%			$CR = 1 - \frac{115}{4(1303)}$
17	6,5	48%			
18	6	44% $\frac{2}{3}$	44.7%	3.38%	
16	6	35%			$CR = 1 - \frac{115}{5212}$
6	6	26%			
2	6	20% $\frac{2}{3}$	21.2%	0.92%	
12	6	16%			$CR = .978$

*Content of each item and response alternatives are indicated on page 35.
+If the respondent was coded as being "positive" on at least two of the three original items used to form a contrived item, he was coded as being "positive" on the contrived item.
#Table adapted from Gross and Herriott, Staff Leadership, p. 30.

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