1980-06

A plan for the evaluation of leadership training in the United States Army

Davies, John Evan

NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

A PLAN FOR THE EVALUATION OF LEADERSHIP TRAINING IN THE UNITED STATES ARMY

by

John Evan Davies

June 1980

Thesis Co-Advisors: J. Senger
C. Eoyang

Approved for public release; distribution unlimited.

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) A Plan for the Evaluation of Leadership Training in the United States Army		5. TYPE OF REPORT & PERIOD COVERED Master's Thesis; June 1980 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) John E. Davies		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Naval Postgraduate School Monterey, California 93940		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Naval Postgraduate School Monterey, California 93940		12. REPORT DATE June 1980 13. NUMBER OF PAGES 253
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Leadership, Training Evaluation, Military Leadership Training, Leadership Theories

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The Army, in a period of constrained resources and increasing demands on its leaders, can ill afford to pursue leadership training which is ineffective. The evaluation plan developed in this study seeks to provide the decision maker with information necessary to guide the training development towards its desired outcome: producing better leaders.

A review of the leadership theories contributing to the Army's organizational leadership model, their training programs, and the

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE
S/N 0102-014-6601
(Page 1)

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

leadership training of the other services is presented. Their methods of program evaluation are studied.

The evaluation plan is a systematic study employing five principal criteria; process evaluation, learning, attitudinal change, behavioral change, and the change in organizational performance. Each is discussed in terms of its source of data, experimental design, and contribution to the overall understanding of the training program's effectiveness. The evaluation scheme is presented in an action plan format to coincide with other ongoing initiatives in the leadership and educational fields.

leadership training of the other services is presented. Their methods of program evaluation are studied.

The evaluation plan is a systematic study employing five principal criteria; process evaluation, learning, attitudinal change, behavioral change, and the change in organizational performance. Each is discussed in terms of its source of data, experimental design, and contribution to the overall understanding of the training program's effectiveness. The evaluation scheme is presented in an action plan format to coincide with other ongoing initiatives in the leadership and educational fields.

Approved for public release; distribution unlimited

A Plan for the Evaluation of Leadership Training in the United States Army

by

John Evan Davies
Captain, United States Army
B.S., University of Connecticut, 1974

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
June, 1980

ABSTRACT

The Army, in a period of constrained resources and increasing demands on its leaders, can ill afford to pursue leadership training which is ineffective. The evaluation plan developed in this study seeks to provide the decision maker with information necessary to guide the training development towards its desireed outcome: producing better leaders.

A review of the leadership theories contributing to the Army's organizational leadership model, their training programs, and the leadership training of the other services is presented. Their methods of program evaluation are studied.

The evaluation plan is a systematic study employing five principal criteria; process evaluation, learning, attitudinal change, behavioral change, and the change in organizational performance. Each is discussed in terms of its source of data, experimental design, and contribution to the overall understanding of the training program's effectiveness. The evaluation scheme is presented in an action plan format to coincide with other ongoing initiatives in the leadership and educational fields.

TABLE OF CONTENTS

I. THE NEED FOR EVALUATION ---------- 11

A. INTRODUCTION ---------- 11

B. THE NEED FOR EVALUATING LEADERSHIP TRAINING 13

C. THESIS VALUES ---------- 19

1. Goal Directed ---------- 20

2. Consistent ---------- 20

3. Innovative and Creative ---------- 20

4. Pragmatic ---------- 20

5. Flexible ---------- 21

D. DESIGN AND ORGANIZATION OF THE THESIS ------ 22

II. REVIEW OF LEADERSHIP LITERATURE ---------- 24

A. INTRODUCTION ---------- 24

B. GREAT MAN AND TRAIT THEORIES ---------- 24

C. SITUATIONAL THEORIES ---------- 28

1. Contingency Theory ---------- 28

2. Situational Leadership ---------- 41

3. Normative Model of Leadership Styles --- 46

D. HUMANISTIC THEORIES ---------- 51

1. Managerial Grid ---------- 51

2. Theory X and Theory Y ---------- 57

3. Management Systems ---------- 59

E. TRANSACTIONAL AND TRANSACTIONAL ANALYSIS THEORIES ---------- 62

1. Transactional ---------- 62

2. Transactional Analysis ---------- 64
F. TRANSFORMATIONAL LEADERSHIP ---------- 66
G. SUMMARY ---------- 67
III. LEADER DEVELOPMENT IN THE MILITARY ---------- 69
A. UNITED STATES ARMY ---------- 69
1. Organization for Training ---------- 69
2. Personnel Management System ---------- 74
3. US Army Leadership Training ---------- 80
4. Summary ---------- 90
B. UNITED STATES NAVY ---------- 90
1. Organization for Training ---------- 90
2. Personnel Management System ---------- 92
3. US Navy Leadership Training ---------- 96
C. UNITED STATES AIR FORCE ---------- 105
1. Organization for Training ---------- 105
2. Personnel Management System ---------- 107
3. US Air Force Leadership Training ------- 109
D. UNITED STATES MARINE CORPS ---------- 111
1. Organization for Training ---------- 111
2. Personnel Management System ---------- 112
3. US Marine Corps Leadership Training ---- 114
E. UNITED STATES COAST GUARD ---------- 116
1. Coast Guard Leadership and Management School ---------- 116
2. Evaluation ---------- 121
F. SUMMARY ---------- 122

IV. EVALUATION METHODOLOGY ---------- 132

A. INTRODUCTION ---------- 132

1. Initial State of the Organization ------ 134

2. Pretraining Leaders ---------- 134

3. Process ---------- 134

4. Posttraining Leaders ---------- 134

5. Future State of the Organization ------- 135

B. PROCESS EVALUATION ---------- 140

1. Process Feedback ---------- 141

2. Expert Opinion ---------- 145

C. LEARNING ---------- 147

D. ATTITUDE ---------- 153

E. BEHAVIOR ---------- 161

1. Organizational Leadership Training ----- 161

a. Experimental Design ---------- 161

b. Measurement Timing ---------- 169

c. Measurement Techniques ---------- 173

d. Research Agency ---------- 175

e. Design Issues ---------- 176

2. Leadership and Management Development Course ---------- 180

a. Experimental Design ---------- 181

b. Measurement Timing ---------- 182

c. Measurement Techniques ---------- 183

d. Research Agency ---------- 184

F. ORGANIZATIONAL PERFORMANCE ---------- 184

1. Performance Ratings ---------- 185

a. Experimental Design ---------- 188

b. Measurement Timing ---------- 189

c. Research Agency ---------- 190

2. Cost-Effectiveness Analysis ---------- 191

G. SUMMARY ---------- 197

V. LEADERSHIP TRAINING EVALUATION ACTION PLAN ----- 199

A. INTRODUCTION ---------- 199

B. ORGANIZATIONAL LEADERSHIP TRAINING --------- 200

1. Process Evaluation ---------- 200

2. Learning ---------- 201

3. Attitude ---------- 202

4. Behavior ---------- 203

5. Organizational Performance ---------- 205

C. LEADERSHIP AND MANAGEMENT DEVELOPMENT COURSE ---------- 206

1. Process Evaluation ---------- 207

2. Learning ---------- 207

3. Attitude ---------- 207

4. Behavior ---------- 208

5. Organizational Performance ---------- 208

D. SUMMARY ---------- 209

VI. CONCLUSION ---------- 210

A. AREAS OF FUTURE STUDY ---------- 210

1. Assessment Centers ---------- 210

2. Evaluation Design ---------- 214

B. SUMMARY ---------- 215

APPENDIX A. ORGANIZATIONAL LEADERSHIP DIMENSIONS of the UNITED STATES ARMY ---------- 218

APPENDIX B. OBJECTIVES of the UNITED STATES ARMY'S LEADERSHIP and MANAGEMENT DEVELOPMENT COURSE ---------- 221

APPENDIX C. ADVANTAGES and DISADVANTAGES of the UNITED STATES ARMY's LEADERSHIP and MANAGEMENT DEVELOPMENT COURSE --------- 223

APPENDIX D. COMPETENCIES of the UNITED STATES NAVY's PROGRAM for LEADERSHIP and MANAGEMENT EDUCATION and TRAINING ---------- 225

APPENDIX E. CHARACTERISTICS OF THE MARINE CORPS LEADERSHIP PROGRAM ---------- 231

APPENDIX F. UNITED STATES COAST GUARD LEADERSHIP and MANAGEMENT DEVELOPMENT PROGRAM ---- 233

APPENDIX G. STANDARDS FOR ETHICAL CONSIDERATIONS for ASSESSMENT CENTER OPERATIONS ------ 235

FOOTNOTES ---------- 242

BIBLIOGRAPHY ---------- 243

INITIAL DISTRIBUTION LIST ---------- 252

LIST OF FIGURES

FIGURE		PAGE
1.	How Style of Leadership Varies with Situational Control	30
2.	Situational Leadership	42
3.	Normative Model Flowchart	48
4.	Managerial Grid	53
5.	Officer Education and Training System	76
6.	Leadership Developmental Model	82
7.	A Model for Analyzing Organizational Leadership	84
8.	Curriculum Development Methodology	86
9.	Surface Warfare Officer Professional Development Path	97
10.	Initial LMET Competencies and Curriculum	100
11.	Progression of Courses and Duration of Training for U.S. Military Services	129
12.	Leadership Skills of the Military Services	130
13.	Characteristics of the Leadership Training Programs in the Military	131
14.	Training Evaluation System	136
15.	Cost and Training Effectiveness Analysis Model	196
16.	Characteristics of the Evaluation Criteria	198

I. THE NEED FOR EVALUATION

A. INTRODUCTION

The military forces of this nation, as a microcosm of society, can look to a future of rapid change along all fronts. In order to develop plans and programs which will be carried into the new century these environmental trends must be plotted and dealt with now. Within the next twenty years the 18 to 24 year old population will decline by 21%. This will require that almost 50% of all male high school graduates be recruited by 1995 to meet authorized strength levels as compared to 40% in 1980 [US Army Strategic Studies Institute, 1978, p. 62]. The soldier of the 80's and 90's will serve in a technology and system intensive organization whose objective will turn from equipping the man to manning the equipment. Demands for technicians will outnumber the supply as new equipment is placed into the field. Into this environment he/she will bring an increased demand for individual rights and independence, and will be more vocal about perceived abuses of his/her time and talents.

Officers will receive more specialized assignments, be rotated less frequently, and advance without having held command leadership positions.

> Leadership and mission accomplishment will be functions of technical expertise, qualification in multiple skill areas, and cognitive ability to analyze, sort, and select alternative courses of action from wide varieties of digital output. At the same time, leaders and personnel managers will not be able to exert control or influence activities simply through the use of directive authority. A leader's success in motivating and directing subordinates will be based on the ability to use a varying combination of leadership skills and approaches effectively in a variety of management situations.
>
> [US Army Strategic Studies Institute, 1978, p. 65]

To prepare our leaders to meet the challenge is the task of the various military training systems. This training will be plagued with budgetary restrictions as funds go into more sophisticated hardware. The result will be fewer courses offering long term resident instruction, greater reliance on exportable training packages, and short-term (temporary duty) courses stressing technical skills. This course of action began several years ago in the Army following a study of the 1973 Mid-East war.

> The U.S.Army Training and Doctrine Command began revising school curricula to emphasize technical competence in the operation and employment of our weapons systems. Funds, however, were not available to lengthen the courses. The result -- some of the more traditional subjects relating to officer development were dropped out.
>
> [Review of Education and Training for Officers, 1978, p. v]

This philosophy towards training will fail to prepare the leader (commander, leader, manager) to deal with the greatest resource available, people. Leadership training

in the Army has not been 'dropped out' or cut back due to a lack of importance, but because a baseline for leadership doctrine development activities has not been formally established and a failure to establish a correlation between what was being taught and the resulting tangible benefits in the operational units.

> Leadership, more than any one factor, must serve as the cornerstone for shaping the Army environment of the 1980's. It will be leadership which provides us with the vision and inspiration to deal with some of the most complex problems to confront a peacetime Army in our country's history and simultaneously prepare our soldiers for war. Leadership makes things happen. It is leadership which creates and shapes unit environments which inspire soldier motivation and commitment; it is leadership which shapes unit cohesion; and it is leadership which must work collectively to shield soldiers and units from the dysfunctional forces and tendencies which are natural spinoffs of centralization and technical innovation. Thus, we must consciously direct our attention and commitment to leadership training and development if it is to be the force which creates an environment conducive to training and molds our soldiers into units prepared to go to war.
>
> [Rojas, 1980, p. 3]

As the 1980's begin there exists an opportunity to rectify this problem. A doctrine for leader development has been promulgated and a Department of the Army level conference convened to plan for its implementation. The subject of program evaluation remains to be addressed in order to complete the transition to a more effective Army.

B. THE NEED FOR EVALUATING LEADERSHIP TRAINING

All programs eventually reach a point in their implementation where the designer or manager evaluates its relative

effectiveness against some established criterion. Just as the project manager would be remiss in failing to analyze a project not yielding its expected rate of return, why then doesn't this realization of importance of evaluation extend to training? McGehee and Thayer [1961] drew an analogy between training evaluation and Mark Twain's comment about the weather, i.e. "everybody talks about it, but nobody does anything about it." [Blumenfeld and Crane, 1973, p. 42]

> A quick review of the training literature however, reveals the practice of evaluation has not kept pace with the prescription. Evaluation research is conspicuous by its absence and when present is frequently remiss in applying appropriate controls to draw reasonably valid conclusions.
>
> [Bunker and Cohen, 1978, p. 4]

Organizations, reluctant to assess training programs, frequently cite one or more of the following reasons for not evaluating:

1. Lack of funds, evaluation is too expensive.
2. An unshakeable belief that their training works.
3. It is impossible to get accurate results, so that What is really being said is: "We are afraid that the evaluation will show we are doing something wrong or have made the wrong decisions and we would rather not know about it."

The hazard of this 'head in the sand' attitude is similar to a type I or type II error in statistics: type I, accepting the program when it is bad and suffering the consequence of continuing to spend considerable sums of money and time on a program which is not contributing to the effectiveness of the

organization; or, type II, rejecting the training program when it in fact is benefiting the attendees and the organization.

When an organization does realize the potential benefits of a comprehensive evaluation plan and includes it as a significant phase in the training system, it can profit in many ways. Some of the reasons for evaluating training include:

1. Assess achievement of training objectives.
2. Assess effectiveness of the trainer.
3. Justify the expense of training through cost-benefit analyses.
4. Improve the content/structure of the training.
5. Decide whether other trainees should receive the training.
6. Identify which trainees benefited the most/least.
7. Reinforce major points for the trainees.
8. Create advance expectations in the minds of the trainees through utilization of pretraining tests.

> Evaluation answers the question what is it worth, not how it works. The purpose of evaluation should be to support decisions to initiate, modify, maintain, or terminate various courses of action.
>
> [Eoyang, 1977, p. 3]

The fundamental application of evaluative techniques is twofold: to aid the decision maker by clarifying the sometimes ambiguous results of a training program, and secondly,

to provide feedback to the individual on how well he/she has succeeded in meeting the objectives of the instruction.

General Douglas MacArthur wrote, "In no other profession are the penalties for employing untrained personnel so appalling and so irrevocable as in the military." [Pitts, 1976, p. 19]. This is particularly true in the area of leadership training. In determining the need therefore for the evaluation of leadership training the question must not be: "Can we afford to assess our training efforts?" but rather; "Can we afford not to?"

Assuming the importance of conducting an evaluation the next issue becomes one of where the assessment fits into the overall training scheme. Obviously the evaluation plan must be supportive of the objectives promulgated in the training program. To assist in this step a systems approach should be taken to integrate the evaluation. It must be realized that not only is evaluation a subsystem of training but that training is a subsystem of the organization and the environment in which it functions. As such any evaluation design must reflect the interrelationships of the process with other components of the system, e.g. the personnel management system, service school system, and even the customs and traditions of the organization as a system. Failure to consider the ramifications of this will lead to a disjointed scheme of evaluation, lack of commitment to the plan, and

the eventual disregard of the findings of the evaluation. System integration is the key to evaluation design.

Isolating for the moment the training process, evaluation is typically the final step. The US Army, for example, has identified seven major processes within the training system:

1. Policy
2. Long-range research
3. Concept development
4. Training development
5. Training
6. Operational management
7. Evaluation

In order to support the first six stages evaluation must focus on four factors in order to provide meaningful feedback to the decision maker. Alden [1978] describes these factors as:

1. Willingness to Change.

If no decision concerning a change in policy, research, etc. will be made as a result of the evaluation then the design and implementation of an assessment plan is a moot point. The Army recognizes the importance of a thorough evaluation as evidenced by the inclusion of this process in the Army Leader Development Plan. The plan, an output of the 1980 Action Planning Conference, is currently in the draft stage. Commitment to evaluation remains

contingent upon the viability of the assessment design.

2. The Type of Information Needed.

The type of information can best be determined by returning to the importance of systems to training and evaluation. Viewing it as a system comprised of inputs, process, and outputs, the research questions center around the relationship of these variables. For example, if the decision involves the presentation of material then an examination of the process is appropriate. If the decision maker needs to know whether or not the program should be continued then a complex evaluation answering questions about the change in both trainee attitude and behavior and change in the organization in which the trainee functions (or leads) is called for. The time frame available to the decision maker in which to reach a conclusion is critical to this question.

3. The Source of the Information.

Campbell, Dunnette, Lawler, and Weick [1970] discuss two sources of data, internal and external. Kirkpatrick[1] [1979] offers four sources; reaction, learning, behavior, and results. Implied by these levels is a requirement to address such specifics as experimental design and constraints on the data gathering. The relationship between these two thoughts and their implications for evaluation comprises a major portion of this thesis and are discussed in detail in Chapter IV.

4. Decision Criteria.

What information will signal the decision maker that a change should be made? This can be written in terms of some absolute standard such as a paper and pencil test on material taught, or a statistical comparison between control and experimental groups. Whichever standard is used, the decision maker should be prepared with some course of action before the results of an evaluation are known.

Recognizing the importance of conducting an evaluation and the focus or direction such a plan must take, it remains to be emphasized that the development of an assessment plan needs to coincide with the preparation of the training program itself. This requires that the fear of the evaluation yielding negative results be overcome by the trainer and the decision maker. This thesis is directed towards preparing a viable evaluation model at a time when the Army is embarking on a new course in its leader development.

C. THESIS VALUES

The U.S. Army, like all organizations, is a values based institution. Values lay the foundation upon which goals and behaviors are specified and the future state of the organization is built. As James MacGregor Burns states, "Mobilized and shaped by gifted leadership, sharpened and strengthened be conflict, values can be the source of vital change." [1978, p. 41] Accordingly, in order to reach its future state, this

evaluation plan is built around the following values:

1. Goal-Directed

The evaluation plan will clearly specify tasks necessary for implementation, detail the rationale behind the tasks, and provide a meaningful product to the Army's leaders and training developers.

2. Consistent

The plan will take a systematic approach. The training development system, Army school system, the personnel management system, and a recognized system of evaluation must be systematically associated. There must also be consistency with, and reflection of, the objectives and goals of the leadership training program. As mentioned previously, system integration is the key to any evaluation, it can not be written in isolation.

3. Innovative and Creative

The plan should not be constrained by the phobias which have frequently affected many evaluation attempts in both the military and civilian training programs, nor will it be constrained by the argument "That isn't done in the military, no one will buy it." It will question the value of tradition where it is seen as an abstacle to progress.

4. Pragmatic

While many programs can be creative, their "pie in the sky" approach can doom them to oblivion. A program must be practical as opposed to idealistic. The decision maker

must be presented with a step by step outline to guide him or her through the evaluative process. This value is closely related to that of Goal-Directed.

5. Flexible

Recognizing the climate in which the military operates as being moderately dynamic, subject to budgetary uncertainties, the plan must provide for contingencies.

The principle benefit in establishing the above values and norms is that, if a proposal seems unclear or difficult to specify, its appropriateness for inclusion can be judged by the stated objectives and values.

The objective of this thesis is to develop a viable evaluation plan for Army leadership training which will provide feedback to training developers and decision makers on the effectiveness of the program and to leaders on their style of leadership.

The plan is not devised to evaluate leaders, that remains the job of the superior. Nor will the thesis question the appropriateness of the current leadership training programs. The purpose of the plan is to provide a strategy by which the program's effectiveness can be reviewed.

To reach this objective the following organization will be used in developing the plan.

D. DESIGN AND ORGANIZATION OF THE THESIS

This introductory chapter has focused the reader's attention on the environment within which the military must operate throughout the remainder of this century, its particular implications on leader development, and the need to monitor those training programs designed to reach effective leadership.

Chapter II sets the stage for exploring the current state of leadership research through a presentation of those theories of leadership which have had the greatest impact on the military's approach to leadership training. Those theories which offer a training program will be examined particularly closely to ascertain what method of evaluation, if any, was used.

The 'art' of leadership in the armed forces, being rather unique from that in the civilian sector, requires that a unique approach be used in the development of its leaders. Accordingly, the approach taken by each service is reviewed in Chapter III. Particular emphasis is placed on the US Army and those systems with which the evaluation plan must interface.

Kirkpatrick's criteria for the evaluation of training will serve as a base for the various methods of assessment available to determine a program's effectiveness. The advantages, disadvantages, and utilization of these techniques

are presented in Chapter IV.

Chapter V organizes the material presented in the fourth chapter into an action plan format. This standardized form clearly specifies the action needed to be taken, the agency responsible for the action, and, in accordance with the Army Leader Development Plan, establishes milestones for each action.

II. REVIEW OF LEADERSHIP LITERATURE

A. INTRODUCTION

The subject of evaluating leadership training must, by necessity, commence with an overview of the theories of leadership. Once the subject is placed in perspective an examination of contemporary approaches to leadership training programs, and their method of evaluation, will serve as a foundation and basis of comparison for the programs of the military services. This review is not intended to be all encompassing, but rather to single out individuals whose work addresses the major theme of this plan or has contributed significantly to the development of the military leadership programs. For a detailed discussion of the historical aspects of leadership research the reader is refered to Ralph M. Stogdill's Handbook of Leadership.

B. GREAT MAN AND TRAIT THEORIES

It was not very long ago that the subject of leadership training was considered an area not worth pursuing. The widely held belief was that the qualities of leadership were a function of heredity, if one was not fortunate enough to be related to royalty there could be no expectation of holding a leadership position. This concept was formalized by Carlyle [1846] in his essay on heroes in which he proposed the 'Great

Man' theory of leadership. In 1960 Eugene E. Jennings published An Anatomy of Leadership: Princes, Heroes, and Supermen which reviewed and analyzed the research on this theory.

With leaders so easily identifiable it was believed possible to determine what made the man/woman so great. This idea gave rise to the next major classification of leadership theory, the trait approach. Begining in the late 1920's studies were conducted to measure the personality and character of individuals who had reached positions of leadership. The focus of academic research remained fixed, throughout World War II, on defining those traits which separated leaders from non-leaders.

The implication of this theory would have been to screen leaders from non-leaders based on some identified leadership traits, and to provide training only to those individuals displaying those qualities. In actuality the war requirement to increase manpower from "two hundred thousand in 1939 to almost six million three years later" [Review of Education and Training for Officer, 1978, p. v.] resulted in a training program which presented the traits to all potential leaders.

The research on trait theory revealed an interesting phenomenon, some of the studies Stogdill cites in his 1948 survey contradict each other with respect to the traits associated with effective leadership. Accounting for these

discrepancies he adds situation to the general headings of capacity, achievement, responsibility, participation, and status as factors associated with leadership. In discussing the addition he writes:

> A person does not become a leader by virtue of the possession of some combination of traits, but the pattern of personal characteristics of the leader must bear some relevant relationship to the characteristics, activities, and goals of the followers. Thus leadership must be conceived in terms of the interaction of variables which are in constant flux and change. The factor of change is especially characteristic of the situation...It becomes clear that an adequate analysis of leadership involves not only a study of leaders, but also of situations.
>
> [Stogdill, 1974, p. 63]

This urging of a situational view was far different from the pure situational theories of the time. The pure situationalist, e.g. Murphy [1941], thought that leadership does not "reside in a person but is a function of the occasion. The situation calls for certain types of action; the leader does not inject leadership, but is the instrumental factor through which a solution is achieved." [Stogdill, 1974, p. 18]

What was suggested was a need to look at the interactive effects of both situational and personal factors. Researchers such as Westburgh [1931], Gibb [1954], Stogdill and Shartle [1955], Bennis [1961], and Hollander [1964] have elaborated on this interaction by proposing various sets of factors. In a 1974 survey of 163 additional studies, Stogdill pointed

out this need to consider both factors by listing some leadership characteristics in order to modify the pure situational theorist's point of view.

It is this combination of factors which today is commonly called the situational or interaction approach. Hersey and Blanchard summarize the approach with:

> The focus in the situational approach to leadership is on observed behavior, not on any hypothetical inborn or acquired ability or potential for leadership. The emphasis is on the behavior of leaders and their group members (followers) and various situations.
>
> [Hersey and Blanchard, 1977, p. 89]

Within this major catagory are found many of the current theories or models of leadership that have either dealt with the issue of training or were influential in the design of the military's programs. A second group of theories which has had a like effect are those Stogdill [1974] calls "Humanistic" theories, those that are "concerned with the development of effective and cohesive organizations."[Stogdill, 1974, p. 21.] The work of McGregor, Blake and Mouton, and Likert fall within this catagory, and it is by this title that their works will be reviewed. Also reviewed are the studies by theorists in the Transactional, Transactional Analysis, and Transformational areas.

C. SITUATIONAL THEORIES

1. Contingency Theory

Since 1951 Fred E. Fiedler and his associates have been studying, testing, and modifying the Contingency Model of leadership. To date it stands as the most researched of all models. While it is their training program, Leader Match, which is significant to this thesis, a background on the model is necessary in order to understand the training concept.

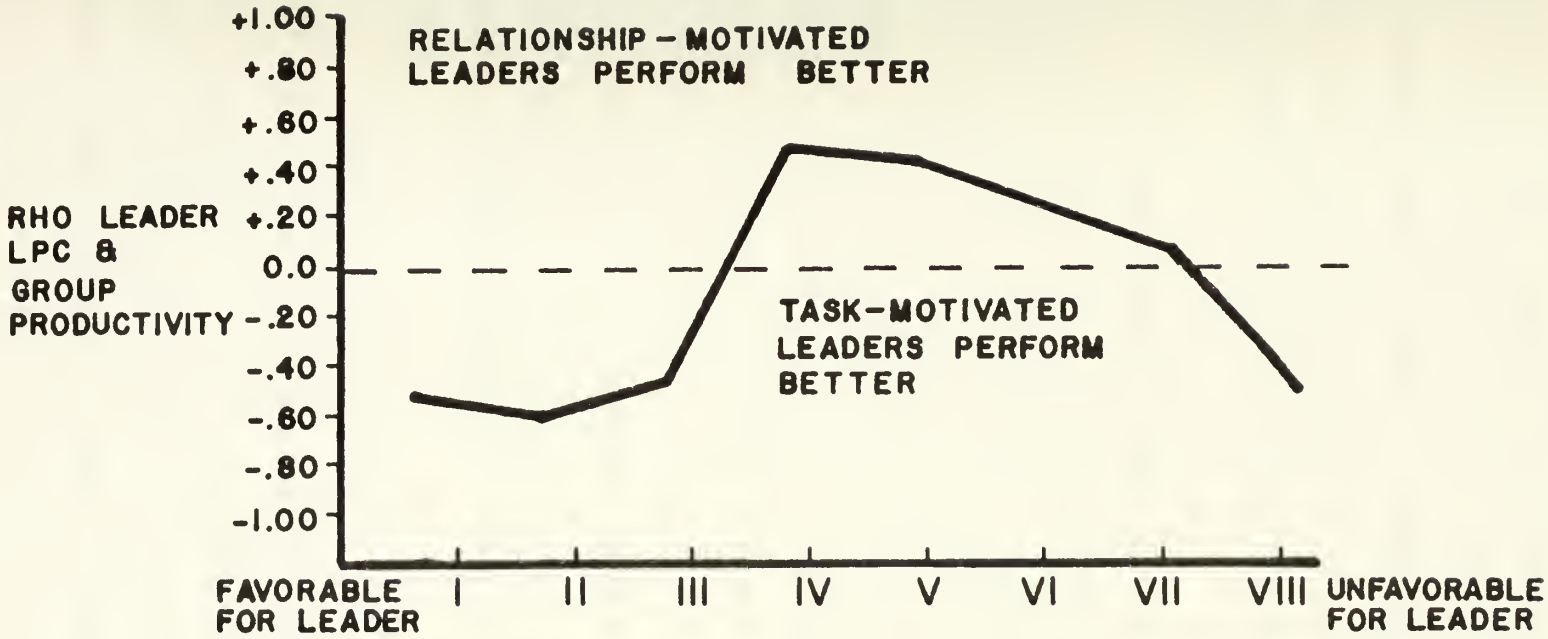
The Contingency Model is based on two factors: (1) the motivational style of the leader; and, (2) the degree of situational control.

The leader's motivational style is determined through the administration of an eighteen item bipolar adjective scale. This scale, the Least Preferred Co-worker Scale, is central to the model. Fiedler describes its operation as:

> An individual who describes his or her least preferred coworker in very negative and rejecting terms (a low LPC) [task motivated] in effect shows a strong emotional reaction to people with whom he or she cannot work -- in effect, "if I can't work with you, you are no damn good!" This is the typical pattern of a person who, when forced to make the choice, opts first for getting on with the task and worries about his interpersonal relations later. Someone who describes even the least preferred coworker in relatively more positive terms in effect looks at the individual not only as a co-worker but also as a person who might otherwise have some acceptable traits. The high LPC leader [relationship motivated] sees close interpersonal relations as a requirement for task accomplishment.
>
> [Fiedler, 1977b, p. 199]

The situation is defined as "the degree to which the situation provides the leader with power and influence." [Csoka and Bons, 1978, p. 295] It is measured on three scales: (1) Leader -- Member Relations, either good or poor it is the degree to which the leader is supported by the group; (2) Task Structure, how clearly the task is defined with respect to goals and procedures, this dimension being structured or unstructured; and (3) Position Power, strong or weak, it measures the degree to which the leader can reward and punish group members (subordinates). When arranged on a continuum the situational control (originally called situational favorableness) forms eight octants as shown in figure 1. Also depicted in figure 1 is a plot of the results of Fiedler's studies. The horizontal axis represents situational control while the vertical is a correlation between group performance and LPC score.

Experiments conducted by Fiedler and others on groups ranging from field artillery NCO's to high school principles tended to show that "task motivated leaders perform generally best in favorable situations, i.e. under conditions in which their power, control, and influence are very high (or conversely, where uncertainty is very low) or where the situation is unfavorable, where they have low power, control, and influence. Relationship motivated leaders tend to perform best in situations in which they have moderate power,



LEADER–MEMBER RELATIONS	GOOD	GOOD	GOOD	GOOD	POOR	POOR	POOR	POOR
TASK STRUCTURE	STRUCTURED		UNSTRUCTURED		STRUCTURED		UNSTRUCTURED	
LEADER POSITION POWER	STRONG	WEAK	STRONG	WEAK	STRONG	WEAK	STRONG	WEAK

FIGURE I. HOW STYLE OF LEADERSHIP VARIES WITH SITUATIONAL CONTROL.

SOURCE: ADAPTED FROM LEADERSHIP & EFFECTIVE MANAGEMENT, Fred E. Fiedler & Martin M. Chemers, 1974.

control, and influence." [Fiedler, 1976a, p. 354]

There are two additional assumptions which are critical to the reported experiments with the model: (1) that leader attributes are stable over time; and, (2) that all of the possible factors which determine the situation can be summed into the favorableness, or unfavorableness, dimension. The number of variables being almost limitless in this latter factor.

The contingency model has met with a great deal of criticism despite (or because of) the many experiments conducted to prove its validity. Hersey and Blanchard disagree with Fiedler's either/or position on the leader's motivation saying it is not sufficient that the situation vary from favorable to unfavorable, the orientation of the leader also may vary from task motivated at one extreme to relationship motivation on the other. They state that "Most evidence [e.g. the Ohio State Leadership Studies] indicates that leader behavior must be plotted on two separate axes rather than on a single continuum." [Hersey and Blanchard, 1977, p. 102]

Stinson and Tracy [1974] raise three points based on experiments they conducted to verify the model. Briefly, they question: (1) the interpretation of the LPC scores, "By its structure the LPC is an attitudinal scale, but Fiedler has attempted to make inferences from it regarding the behavior or style of leaders." [Stinson and Tracy, 1974,

p. 477]; (2) stablity of the LPC score, "Fiedler's interpretation of the LPC score as an indicator of a stable personality trait is based on post hoc analysis and he has presented no independent evidence of the existence of this trait." [p. 478]; and (3) the post hoc measurement of situational favorableness control.

Ashour [1973] has criticized Fiedler's procedure for combining results of different octants together which "confounds any predictive differences that might exist between octants...After applying Fisher's [1946] technique of combining correlations and then analyzing the data, Ashour found that Fiedler's model failed the validity tests (i.e. non-significant correlations) in six of the eight situational octants." [Hendrix, 1976, p. 27] Ashour concluded therefore that the model contained serious theoretical and methodological flaws.

The studies by Graen [1970, 1971] and comments by Holland [1974] can be summed up with a Stinson and Tracy quote: "if the validity and reliability of the LPC score cannot be established with greater certainty, its use to provide data supporting a major leadership theory is inappropriate." [Stinson and Tracy, 1974, p. 485]

Countering these criticisms Fiedler maintains that "these studies have methodological weaknesses which make them inadequate tests of the model." [Fiedler, 1971, p. 202]

Specifically the Graen et al [1971] study was cited as having poor manipulation of the power variable in its laboratory situation, a problem Fiedler believes he overcomes in his studies outside of the laboratory, e.g. ROTC, West Point, Belgian Navy, etc. The task structure manipulation and the distribution of the LPC scores among the octants Fiedler found as contributing to that study's weaknesses.

Leaving the basic model and turning towards its implications for training recall the second assumption that any number of variables can go into determining situational control, training is such a variable. Fiedler maintains that a "leader's motivational orientation or personal style is likely to be relatively impervious to modification through short term training. On the other hand, training might improve the leader's potential influence and control (i.e. the situational control of the job)." [Chemers and Rice, 1974, p. 112] Training, in other words, is a modifier of the situation. This, however, is not always good.

Given a moderately favorable situation and a low LPC type leader, training in this situation can be predicted to improve the situation, thereby putting the low LPC leader in a favorable situation, which the model predicts as being the most advantageous for the leader and group performance. The same logic also applies to the high LPC leader found in

an unfavorable situation where training will hopefully raise the situation to one of moderate favorableness. The negative aspect comes when the low LPC leader in an unfavorable situation moves into a moderately favorable situation where he loses the advantage. This Fiedler points out is why training does not always result in improved group performance. The implied course of action is for the leader to receive additional training in order to move the situation to one of favorableness. When movement through training is not feasible Fiedler sugggests that assignment to leadership positions be based on the individual's motivation and the situation. A practice which, for all practical purposes, is impossible at lower command levels within the military, but, one which is being used for senior grade (general officer) assignments.

This ability to change the situation through training was used by Fiedler, Chemers, and Mahr [1975] to develop the Leader Match Training Program. The program involves a self-paced book entitled, Improving Leadership Effectiveness, which is designed to teach individuals how to apply the principles of the contingency model.

> In Part 1 of the manual, the individual completes the LPC scale, which indicates whether he or she is primarily concerned with interpersonal relations (high LPC) or with task accomplishment (low LPC). In Part 2, the individual learns how to measure situational control using scales designed for each of the three variables. Part 3, suggests methods for changing situational control and Part 4 provides guidance on how to help subordinate leaders improve their performance.
>
> [Fiedler and Mahr, 1979, p. 248]

It is the method of evaluation used for this program, advertised as a "fully validated training program," which is of most interest to this thesis.

To examine the methods employed, four experiments will be reviewed in which the presentation of the Leader Match program reportedly led to significantly higher measures of leader effectiveness. These experiments, all involving military subjects, were conducted between 1977 and 1979.

In the first experiment Navy officers and petty officers were randomly assigned to either a control or treatment group. Performance ratings were completed prior to training for both groups with no significant difference between groups reported. The treatment group then was given two, four-hour, training sessions in which they viewed a film on the theory, read the Leader Match manual, and participated in a group discussion. Six months afterwards performance ratings were again gathered from at least two of the three original raters for each subject. The result, measured by mean performance change in rating score, showed "the difference between the trained and control groups' change scores...were highly significant." [Leister et al., 1977, p. 468].

Using the notation from Campbell and Stanley's Experimental and Quasi-Experimental Designs for Research on Teaching this experiment can be depicted as:

Treatment Group:	R	O_1	X	O_2
Control Group :	R	O_1		O_2

The symbols represent: R = Random Assignment; O = Observation; X = Treatment. The ordering from left to right signifies the passing of time, the last observation being O_2. Thus, in this experiment the treatment measurement $(O_2 - O_1) >$ control $(O_2 - O_1)$.

The second experiment, involving West Point cadets, follows the same design as the first but the treatment group was required to submit a written evaluation of the manual and a follow-up report three months later describing attempts to use the principles of Leader Match (Contingency Theory) and their relative success or failure.

Each subjects' assignment to either the top, middle, or bottom third category (of all cadets at the school) based on leader effectiveness was the performance criterion selected. The result: "subjects in the experimental group were significantly more in the top third and less in the bottom third catagories than subjects in the control group." [Csoka and Bons, 1978, p. 297]

Experiment three differed in that a third control group was randomly selected and the treatment group was not required to provide feedback. This third group was told they were to be observed and evaluated during the time the experiment was being conducted. The purpose of this will

be discussed later. Battalion commanders were used to rank-order the subjects, again West Point cadets, based on displayed ability to lead. These rankings were converted to decimal scores for comparison purposes (e.g. the first out of four was converted to .75; third out of eight was .62). An analysis of variance indicated that "student military leaders who were given the Leader Match training manual ranked significantly higher in comparative performance than those who did not use the manual."[Csoka and Bons, 1978, p. 298] The informed control group performance ranking was below that of the control group which was not informed. The short-hand depiction of this experiment is:

Treatment Group:	R	X	O
Control Group 1:	R		O
Control Group 2:	R	(X)	O

The (X) indicates a placebo treatment, in this case informing the group they were being observed.

The final experiment, Army ROTC cadets at Advanced camp, involved a stratified random sample of schools grouped into upper, middle, and lower categories based on student performance at the previous year's camp. Three schools from each catagory were designated as treatment or control, a total of eighteen schools. The 190 cadets from the nine treatment schools were issued the manual and given a closed-book exam to insure that the training was completed. The subjects' performance at camp was based on two peer ratings,

advisor ratings, an orienteering exercise, and a tactical exercise. The latter two criteria did not show a significant difference between control and treatment groups while the "mean cadet performance of ROTC programs in which Leader Match was administered was significantly higher than that of control schools on measures directly related to leadership skills."[Fiedler and Mahr, 1979, p. 251].

The purpose behind detailing these experiments is to call attention to the possible alternative hypotheses (explanation of group differences apart from those created by Leader Match) despite the popularity of the experimental design. In each experiment the possibility of sampling bias and rater bias are adequately addressed. The likelihood however, that the Hawthorne effect accounted for some of the difference is not so easily dismissed as Fiedler et al. would indicate.

This major contaminant of evaluative methodology results from the subject having been singled out for special attention (e.g. training). In the first experiment the effect is rejected on the naive assumption that "training is a way of life in the military services...participation in a 12-hour training program is thus nothing out of the ordinary for most military personnel." [Leister et al., 1977, p. 469] The fact is that 12-hours of concentrated leadership training is something special outside of a service school environment.

An item which is not reported in the case but one which would be significant to the impact the study would have on the individual was whether or not the trainers were military or not.

Further supporting their contention that the Hawthorne effect was negligable they argue that other training program experiments should also have reported positive results. This argument would be valid only after an analysis of the administration of the experiments, other research efforts perhaps imposing other forms of control.

In the last experiment the importance of motivation to the performance at ROTC advanced camp is minimized. They (Fiedler and Mahr) point out that there should have been a difference in the orienteering and tactical exercises if the training was responsible for no more than raising motivation. This justification is in error due to the relatively minor role motivation plays in successful performance on these exercises, knowledge of land navigation and tactics being the principal components of success, whereas the other performance measures are highly influenced by motivation as opposed to skill.

Recognizing that the "method of choice for eliminating the Hawthorne effect is...the use of an alternative training program " [Fiedler and Mahr, 1979, p. 252] the researchers claim that the leadership instruction received by cadets during their previous year(s) of ROTC training constitutes

this alternative. Their claim fails to address a salient feature of the Hawthorne effect, that of being singled out for training. Across the board training does not meet this criteria.

Csoka and Bons [1978] report that in their experiments (the second and third) the Hawthorne effect (as a confidence builder) is not easily dismissed.

Having elaborated on the Contingency Model, Leader Match, and the validation studies of this training program, the point is all too clear. Even a leadership program as thoroughly researched as Fiedler's is subject to invalidities in the evaluation methodology. These difficulties lie at the heart of all assessment attempts and will serve as a useful comparison to the model proposed in this thesis.

Prior to moving on to the other situational theorists, the following is offered as testimony to Fiedler's work:

> Fiedler's model might best be characterized as a model of controversy, and perhaps the birth of this controversy is Fiedler's greatest contribution to the understanding of leadership. The introduction of his model has resulted in many researchers attempting to test the model, and each test has perhaps added a little to the knowledge of leadership.
>
> [Hendrix, 1976, p. 27]

2. Situational Leadership

Hersey and Blanchard, like Fiedler, maintain that there is no one best style of leadership. They differ in their contention that the needs of the group and the environment make the successful leaders adapt their behavior to the situation.

The Situational Leadership theory (previously called Life Cycle Theory of Leadership) starts with a two dimensional grid, the vertical axis representing relationship behavior while the horizontal axis signifies task behavior. They define these variables as:

> Task Behavior - The extent to which leaders are likely to organize and define the roles of the members of their group (followers); to explain what activities each is to do and when, where, and how tasks are to be accomplished; characterized by endeavoring to establish well-defined patterns of organization, channels of communication, and ways of getting jobs accomplished.
>
> Relationship Behavior - The extent to which leaders are likely to maintain personal relationships between themselves and members of their group (followers) by opening up channels of communication, providing socio-emotional support, "psychological strokes," and facilitating behaviors.
>
> [Hersey and Blanchard, 1977, p. 104]

It is based on a curvilinear relationship between task and relationship behaviors and maturity of their followers for a specific task. Figure 2 depicts this relationship.

Maturity of the follower is defined as "the capacity

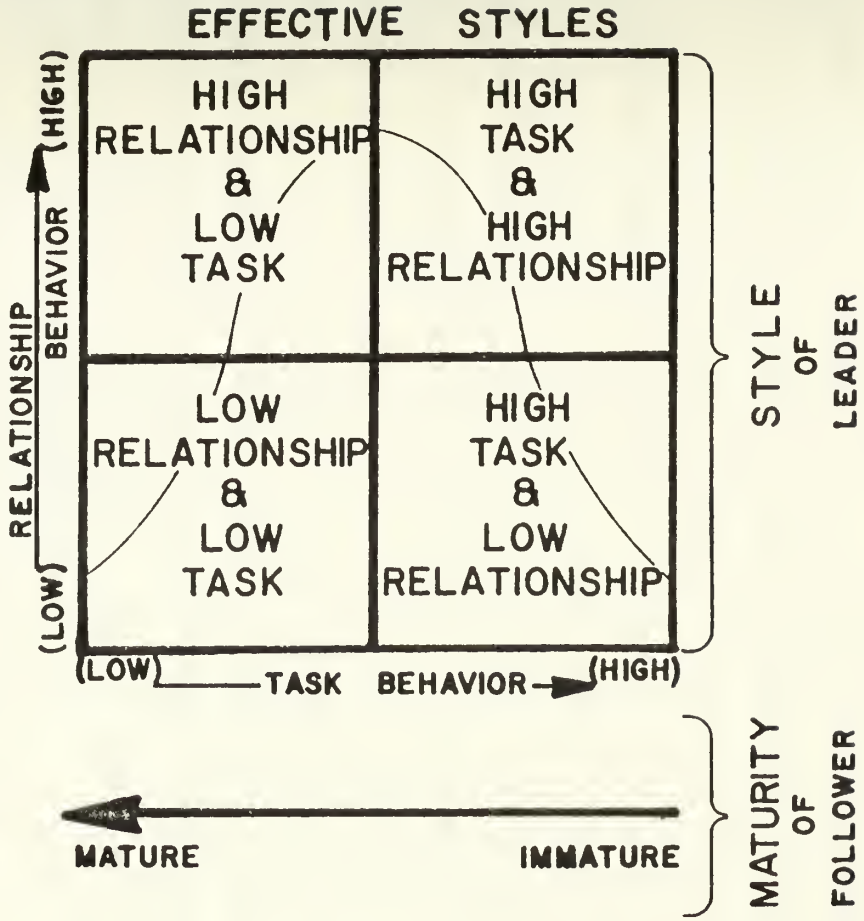


FIGURE 2. SITUATIONAL LEADERSHIP

SOURCE: MANAGEMENT OF ORGANIZATIONAL BEHAVIOR: UTILIZING HUMAN RESOURCES, Paul Hersey & Kenneth H. Blanchard, 1977, p. 164

to set high but attainable goals (achievement - motivation), willingness and ability to take responsibility, and education and/or experience of an individual or a group." [Hersey and Blanchard, 1969, p. 28] This concept of the follower being a vital part of a leadership theory is significant in considering an evaluation of any training program. Stogdill writes, "Change in the leader is significant only if it produces an impact on the follower group." [1974, p. 422]

According to the theory, as the maturity level of the individual/group rises (moves from right to left) the appropriate behavior or leadership style should change from high task and low relationship to one of high task/high relationship. At the midpoint in the maturity continuum the curve slopes downward to the left as maturity continues to increase, this results in a decrease in the relationship behavior as the group passes into what Maslow termed the esteem and self-actualization needs, they provide their own relationship needs or "strokes." Throughout this change in relationship, task behavior has continued to decline.

In effect this theory says that given a certain task for which the followers display high maturity a low relationship/low task behavior style is appropriate. This point, as will be seen, corresponds to Blake and Mouton's Impoverished leadership style which the Grid model would never consider appropriate. It should be noted that this point corresponds

with Maslow's self-actualization need which he maintains is reached by only a very few individuals. So while the leader's behavior at this point may be correct, so few of the followers will ever reach this maturity level that the behavior will usually never be seen. The theory is consistent with McGregor's Theory Y which allows for a wide range of style, depending on the work group and the situation.

Hersey and Blanchard have sectionalized the curve according to the quadrant it falls in and have termed the leadership styles as: Telling (high task/low relationship); Selling (high task/high relationship); Participating (low task/high relationship); and Delegating (low task/low relationship). These terms describe the style appropriate to the level of maturity.

While noting that "changing the style of leaders is a difficult process, and one that takes considerable time to accomplish" Hersey and Blanchard, [1977, p. 150] have developed a test to measure the leader's self perception of his/her style, style range, and style adaptability (resulting profiles from the instrument). This instrument is the Leader Effectiveness and Adaptability Description (LEAD) -- Self. It consists of twelve situations of varying follower maturity, three from each quadrant. Each situation is followed with four possible responses from the leader. Based on the response given, the leader is classified into a certain style.

The consequence of this classification is an ability to recognize which level of management the leader's style is most appropriate for and structure future training and development courses to expand the leader's adaptability. Hersey and Blanchard report that most leaders are able to modify their style after some training in Situational Leadership theory.

To assist the leader in determining what training may be needed there is also a LEAD -- Other instrument which the leader's peers, superiors, and subordinates complete on the leader. The test is identical to the LEAD -- Self in the situations but is written in the third person.

Despite the current popularity of the Situational Leadership model within the military and civilian communities (e.g. Xerox Corporation) it is not without its critics. Barrow [1976] criticized both the theory and instrument as not having been empirically tested, a comment which is still voiced. Information concerning the testing of the model is very limited. Due to its commercial orientation little has been published in academic journals concerning measures of its validity, thereby restricting the type of criticism found in the Contingency Model.

Given the overall influence of Hersey and Blanchard's model it is appropriate to consider the model's implication with respect to a major leadership function, decision making.

The Vroom and Yetton model considers the situational aspects of the problem at hand in prescribing the suitable leadership style.

3. Normative Model of Leadership Styles

The objective of the Vroom and Yetton model is to prescribe an appropriate leadership style in making decisions. It is formulated on a set of five assumptions: (1) That the model be operational (leader required behaviors are unambiguous); (2) That the degree of subordinate participation in problem solving can vary; (3) That no one leadership method is applicable to all situations; (4) That the issues of a specific problem contains the key to its solution; and (5) That the leadership method used in response to one situation should not constrain the method or style used in other situations.

Based on these assumptions two models were developed, one for group, the other for individual problems (i.e. the number of subordinates affected by the decision, one or many). Each model is comprised of three variables; the attributes of the specific problem, a set of rules to protect the quality and acceptance of the decision, and a list of possible leadership styles.

There are seven basic problem attributes, or questions, which require a yes or no answer. The original model called for eight plus two supplemental questions. The

interrelationship of problem attributes, depicted on a decision tree along with the revised questions are shown in figure 3.

> The model prescribes a leadership method that will protect both the quality and the acceptance of the solution and, at the same time, minimize the manhours consumed by the process of decision making.
>
> [Vroom and Yetton, 1973, p. 187]

These styles (methods) are classified as either Autocratic (A), Consultative (C), Group (G), or Delegated (D). As an example, the five styles associated with group problems are: (AI) Leader solves problem on own without additional information; (AII) Obtain information from subordinates and make decision; (CI) Share the problem with relevant subordinates on individual basis, obtain information to make the decision; (CII) Share problem with the group, obtain information to make the decision; and (GII) Share the problem with the group, leader acts as moderator of meeting to reach consensus on a solution which will stand as the decision. Leadership styles GI and D are associated with individual problems only.

The rules serve to limit the feasible set of styles by specifying which approach(s) should not be tried. For example, the trust rule says that if the quality of the decision is important but the subordinates can not be trusted then style GII is not feasible. Other rules include information, unstructured problems, acceptance, conflict, fairness,

A. IS THERE A QUALITY REQUIREMENT SUCH THAT ONE SOLUTION IS LIKELY TO BE MORE RATIONAL THAN ANOTHER.

B. DO I HAVE SUFFICIENT INFO TO MAKE A HIGH QUALITY DECISION.

D. IS THE PROBLEM STRUCTURED.

E. IS ACCEPTANCE OF DECISION BY SUBORDINATES CRITICAL TO EFFECTIVE IMPLEMENTATION.

F. IF I WERE TO MAKE THE DECISION BY MYSELF, IS IT REASONABLY CERTAIN THAT IT WOULD BE ACCEPTED BY MY SUBORDINATES.

G. DO SUBORDINATES SHARE THE ORGANIZATIONAL GOALS TO BE ATTAINED IN SOLVING THIS PROBLEM.

H. IS CONFLICT AMONG SUBORDINATES LIKELY IN PREFERRED SOLUTIONS.

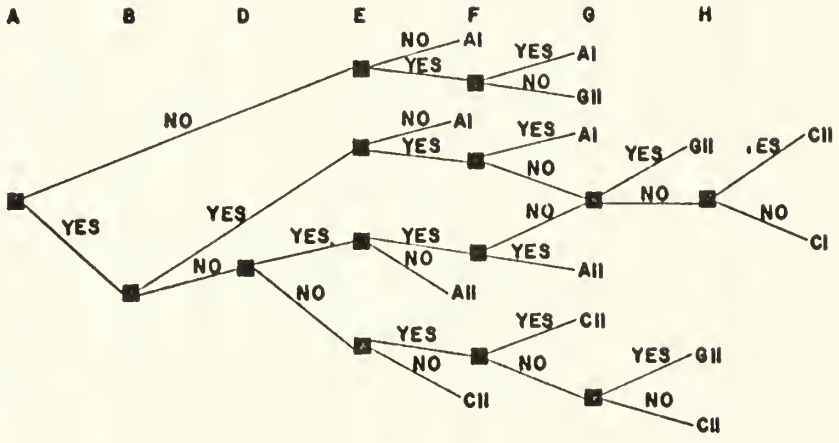


FIGURE 3. NORMATIVE MODEL FLOWCHART
SOURCE: LEADERSHIP AND DECISION MAKING, Victor H. Vroom & Philip W. Yetton, 1973.

and acceptance priority.

As a by-product of their research Vroom and Yetton have developed a program of leadership development. The purpose of course to "encourage people to examine critically the leadership methods they use in concrete situations in order to better fit their 'style' to the situational demands." [Vroom and Yetton, 1973, p. 208] Their program, taking from 15 to 22 hours for the first six phases, consists of seven phases in total: (1) Training in recognizing the differences in own and other's decision process; (2) Diagnosis of one's own leadership style; (3) Practice in using decision processes; (4) Understanding the consequences of different decision processes; (5) Training in the Normative Model; (6) Feedback based on behavior on the standardized problems; and (7) Follow-up. The feedback package in phase six comes in the form of a computer printout showing the leader's responses in comparison to the other leaders in the group and agreement with the model's predicted solutions.

In attempting to validate the theory, managers who were unaware of the Normative model were asked to describe a problem, its attributes, and the relative effectiveness of the solution. The correlation between what the model would predict to be the most effective course of action and what course the manager reportedly took to arrive at the decision was sought to verify its overall validity. The results were

"all in a direction consistent with the hypothesis that the model has a higher 'probability' of generating decisions of high quality and acceptance, but none reach conventional levels of statistical significance." [Vroom and Yetton, 1973, p. 183] The most recent work on the model by Jago and Vroom [1978] centers on validating the problem sets developed for the training and testing their predictive ability.

In a recent article on the Vroom and Yetton model Field [1979] critiques several features of the theory. First is the possiblity of error due to the method of obtaining self-reports from the managers on decisions they have made in the past, "the manager will likely report high decision effectiveness, quality, and acceptance and may have cognitively distorted the actual levels of these variables" [p. 252]. He concludes his remarks with "The utility of the Vroom - Yetton model is questionable for two reasons. First, it is not as parsimonious as other models of leader decision process choice [it is overly complex]. Second, it deals with only one aspect of leader behavior, that of selecting different decision processes for different problem situations" [p. 256].

This completes the review of the situational models of leadership. While not exhaustive of the field, it does provide insight into the major theories. In the next section the theories which maintain that there is one best style of

leadership are reviewed.

D. HUMANISTIC THEORIES

1. Managerial Grid

Hersey and Blanchard's comment on the contingency model's failure to recognize that leadership must be measured on two axes stems from the results of the Ohio State Leadership studies. These studies, begun in 1945, sought to identify various dimensions of leader behavior, that is, the behavior of an individual when directing the activities of a group toward some final goal. Initially arriving at four dimensions, these were later reduced to two, Consideration and Initiating Structure. Consideration is the "behavior indicative of friendship, mutual trust, respect, and warmth in the relationship between leader and members of his staff" [Hersey and Blanchard, 1977, p. 94]. Initiating Structure refers to "the leader's behavior in delineating the relationship between himself and members of the work group and in endeavoring to establish well-defined patterns of organization, channels of communication, and methods of procedure" [Hersey and Blanchard, 1977, p. 94]. Both dimensions being expressed in behavioral terms, i.e. how the leader acts.

Following in this view, Robert R. Blake and Jane S. Mouton constructed a similar framework using concern for people and concern for production. Analogous to Consideration and Initiating Structure respectively, the major

difference is that the use of the term concern makes the dimension attitudinal vice behavioral. This model, the Managerial Grid, has been widely used as a leadership training tool in both the civilian and military programs to get the leader to recognize the interdependence of the two dimensions.

The grid itself is constructed with concern for people along a nine-point vertical axis and production concern along the nine point horizontal axis. Of the 81 possible points of interaction, five have been identified as being primary styles, they are depicted on figure 4 and defined as:

> Impoverished (1,1). Exertion of minimum effort to get required work done is appropriate to sustain organizational membership.
>
> Country Club (1,9). Thoughtful attention to needs of people for satisfying relationships leads to a comfortable friendly organization atmosphere and work tempo.
>
> Task (9,1). Efficiency in operations results from arranging conditions of work in such a way that human elements interfere to a minimum degree.
>
> Middle-of-the-Road (5,5). Adequate organization performance is possible through balancing the necessity to get the work out while maintaining morale of people at a satisfactory level.
>
> Team (9,9). Work accomplishment is from committed people, interdependence through a "common stake" in organization purpose leads to relationships of trust and respect.
>
> [Hersey and Blanchard, 1977, p. 96]

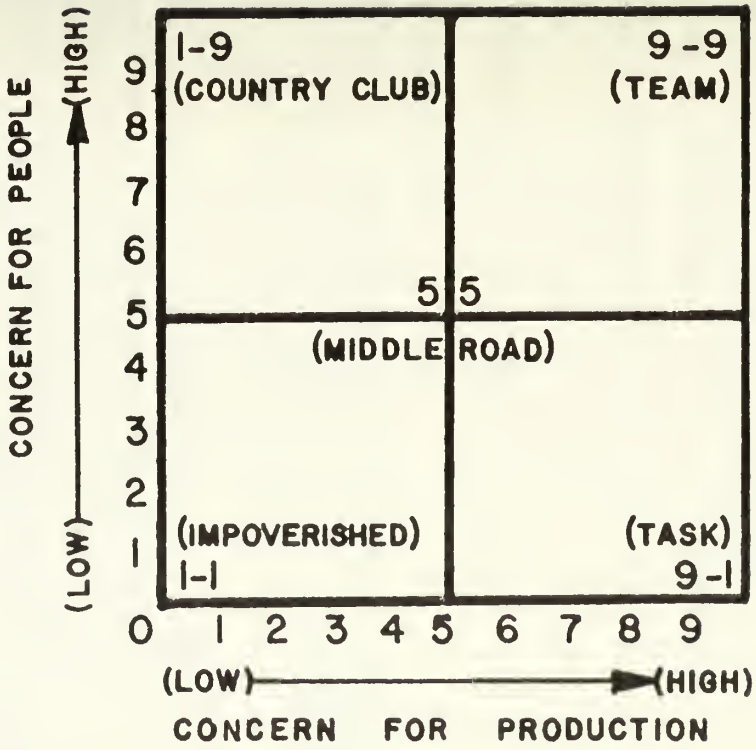


FIGURE 4. MANAGERIAL GRID

SOURCE: MANAGEMENT OF ORGANIZATIONAL BEHAVIOR: UTILIZING HUMAN RESOURCES, Paul Hersey & Kenneth H. Blanchard, 1977, p. 96.

In designing leadership training around Managerial Grid (also applicable to organizational development, intergroup relations, etc.) Blake and Mouton have constructed a six phase program.

Starting with the leader recognizing his/her own style of leadership and culminating with the attainment of some organizational goals, it covers both individual and organizational leadership. An unique aspect of the Grid is that it is taught to the leaders/managers of an organization by personnel from its own ranks. These instructors or facilitators having been trained and certified in the conduct of the program. While the length of the phases may run from one week to several years, the major objectives of each phase are:

Phase I. Management Development. To increase the leader's awareness of own attitudes, and to familiarize him/her with the Grid system so that it may be applied in analyzing own and organizational leadership.

Phase II. Team Development. Analysis of own work group environment is conducted to determine what, if any, barriers to effective leadership exist. Team provides feedback to leader on his/her style so that the leader may analyze the gap between the 9,9 style leader (where the theory says he should be) and where he and others perceive him to be. A "standard of excellence" is established for individuals and groups' performance.

Phase III. Intergroup Development. Similar to the second phase, the emphasis is on organizational leadership at the interface of various work groups. Barriers in planning and communicating between the groups are identified and resolved.

Phase IV. Organizational Goal Setting. Leaders use skills obtained in previous phases to objectively,

logically, and explicitly define the organizations goals.

Phase V. Implementation. Implement Phase IV plans. May take several years.

Phase VI. Stabilization. Measurement and evaluation of success in reaching organizational goals.

Throughout the program, and in the final analysis, questionnaires, forms, etc., are provided to the organization to determine its (the Grid's) effectiveness.

Again, it is the final phase, evaluation, which this thesis is primarily concerned with. Despite its popularity "surprisingly few areas of the Grid have been subjected to rigorous research" [Huse, 1975, p. 160]. Holding much the same opinion as Odiorne [1964] that training must result in an increase in tangible economic indicators to determine its effectiveness, Blake and Mouton hold that within a profit making organization the ultimate measure is financial.

In one widely publicized evaluation of a 4,000 member division of a petroleum corporation, an increase in profits and productivity and a decrease in controlable costs were pointed to as evidence of the success of the Grid training. The problem with the evaluation was that many of the indicators, or criterion, changed as a result of: (1) organizational impact from the parent headquarters in the form of forced reduction in the size of the work force; (2) failure to establish a control group, and (3) no measure of the possible Hawthorne effect. The design of the program (in retrospect) is most like that of Campbell and Stanley's

one-shot case study and one-group pretest -- posttest designs (the two most susceptible to sources of invalidity). These problems are frequent in the studies of the Grid; Blake and Mouton [1966], Beer and Kleisath [1967], Beckhard [1965], and Kuriloff and Atkins [1967]. Stogdill, citing the same petroleum study stated "The control in these studies are less than adequate. The research was conducted during a long economic upswing when, in general, businesses were increasing their profits" [1974, p. 189].

It is unfortunate that a program for leadership training as developed and as widely used as the Grid should suffer from such poor evaluative techniques. As discussed in the introduction, the military services, which have taught Managerial Grid extensively (e.g. US Army Management School, 1964), can no longer afford to adopt a program which has nothing more to offer than intuitive appeal. Furthermore, the commitment called for on the part of the subordinate cannot be developed in a combat environment through "deliberation and debate around major organization issues and by the mutual identification of sound objectives" [Pitts, 1976, p. 57].

Blake and Mouton are not alone in arguing for a one best style of leadership. Another theory which has become a cornerstone in leadership research and training are McGregor's theories.

2. Theory X and Theory Y

A classic theory both in terms of its use in military instruction and impact on behavioral research is McGregor's concept of Theory X and Theory Y. These two theories dichotomize the beliefs or assumptions one may have about human nature and behavior which formulate an individuals leadership style.

The assumptions of Theory X include: (1) the average human being has an inherent dislike of work and will avoid it if possible; (2) most people must be coerced, controlled, directed, or otherwise threatened with punishment to get them to put forth adequate effort toward the achievement of organizational objectives; (3) The average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition, and wants security above all else.

A leader ascribing to these beliefs would tend to rationalize poor organizational performance by blaming the people with which he/she must operate. The leader is more likely to control or supervise his subordinates much more closely through the use of his/her authority.

On the other hand, Theory Y assumes: (1) the expenditure of physical and mental effort in work is as natural as play or rest; (2) external control, and the threat of punishment are not the only means for bringing about effort toward organizational objectives; (3) commitment to objectives is a

function of the rewards associated with their achievement; (4) the average human being learns, under proper conditions, not only to accept but to seek responsibility, and (5) the capacity to exercise a relatively high degree of imagination, ingenuity, and creativity in the solution of organizational problems is widely, not narrowly, distributed in the population. It is this assumption which gives credibility to the Vroom and Yetton Normative model for the high acceptance problem requirements.

The supervisor whose assumptions about human nature are similar to the Theory Y principles has greater flexibility to operate over a range of leadership styles. He or she is able to determine the appropriateness of exercising his/her authority to control the subordinates when a lack of commitment to the organizations goals fails to stimulate the necessary self-control and self-direction to insure efficiency. This principle of integration, creating a condition in which subordinates can realize their own goals by working towards the organizations, is central to Theory Y.

Above all else, it must be remembered that Theory Y does not imply permissive leadership, a common misunderstanding of McGregor's work. It allows for growth of the organization, unencumbered by the resource requirements devoted to the control of employees otherwise willing to support the organizations goals, but not trusted by the leader with the Theory

X assumptions.

To aid the leader in moving toward a Theory Y belief it was proposed that training in the principles of both X and Y would make it possible for leaders to "evaluate their own actual situation to determine the extent to which it approximates the assumptions contained in Theory X, as contrasted with those in Theory Y. Once the theory-versus-practice analysis has been completed, causes for the differences are identified" [Blake and Mouton, 1978, p. 78].

McGregor's theories have had substantial impact on the works of other behavioral scientists and their contribution to the study of leadership in general and military leadership specifically. Renis Likert is one such researcher.

3. Management Systems

Perhaps best known in the military community for his influence on the Navy's Human Resource Management Support System, Renis Likert's work at the Institute for Social Research, University of Michigan, has emphasized the leaders' need to consider the human contributions to an organization's output. His efforts over the last four decades have centered on identifying the leaders role in the organization, his/her influence as a leader, the organizational characteristics associated with various leadership styles, and the assignment of costs to the human asset.

The first effort, the linking-pin concept, identifies

the leader as a member of two groups, subordinate in one, superior in another. Within both he or she must be perceived by the other members as a part of their group in order to exert any influence and be effective. This second concept has been termed the interaction -- influence principle. Stouffer et al., wrote of this principle in The American Soldier [1949]:

> If an intermediate-level officer is to be a real leader, he has a dual role to play. He must accept the norms and values of superior authority, thus serving as an agent of the impersonal and coercive organization of which he is part. To the extent that he does this effectively, his superiors regard him highly. At the same time, he must win the willing followership of the men under him, so that he welds over them authority which they themselves have given him.
>
> [Gibb, 1969, p. 236]

Two variables are at work in this principle. First, the more influence a leader has on his superiors the greater will be his influence with the subordinates. Second, "the more that managers allow themselves to be influenced by their subordinates, the more influence they, in turn, exert on subordinates" [Rush, 1976, p. 8-8]. Combined, these variables spell out a leadership style resembling Theory Y or participative which has been termed a supportive relationship.

In many studies of organizations Likert found that

the participative style was only one of four types, or systems, possible. Arranged in order from that most commonly associated with a Theory X assumption, these systems are:

> System 1 (Exploitive -- Authoritative). No confidence or trust in subordinates. Top down orientation of decision making, highly centralized management. Fear and punishment are typically employed to force greater production.
>
> System 2 (Benevolent -- Authoritative). Condescending attitude of managers towards subordinates. Some delegation of decision making from top of organization.
>
> System 3 (Consultative). Substantial, but not complete, trust in subordinates. Strategic decisions remain at top, day-to-day decisions made at lower levels. Rewards primarily used to motivate workers.
>
> System 4 (Participative -- Group). Complete trust and confidence in subordinates. Good communications in both directions allows for decentralized approach to decision making. Intrinsic rewards motivate employees.
>
> [Hersey and Blanchard, 1977, p. 72]

It is towards this fourth system that Likert says all organizations should strive. To help the company or command to move in this direction an instrument was developed which monitors the climate of the organization on eight characteristics; leadership, motivation, communication, decision making, interaction and influence, goal setting, and control process.

The Navy has been influenced by Likert's (as well as Bowers and Seashore's) work in designing its 88-item Human Resource Management Survey. The dimensions measured include; command climate, supervisory leadership, peer leadership, and

work group processes. Seventeen separate indexes comprise these four dimensions with an additional eight for emphasis and end result measures.

The results of the survey administration can aid the leader in monitoring his/her own style and the degree to which subordinates perceive him/her as a member of the group (ability to influence).

Likert's later work in human resource accounting has evoked considerable interest, but limited acceptance and is not within the scope of this study.

As in the case of the situational leadership theorists, the scope of literature reviewed in this section is not all inclusive. The models selected for inclusion have provided the reader with a sufficient background on the body of research which espouses a one best style of leadership. In the following section the interaction of leader and follower will be reviewed from a slightly different perspective.

E. TRANSACTIONAL AND TRANSACTIONAL ANALYSIS THEORIES

1. Transactional

Transactional leadership, similar to the concept of the exchange between organizations and members (March and Simon, 1958), refers to the transaction between leader and follower. T.O. Jacobs [1971] provides this explanation:

> Leaders act as organization representative by providing earned benefits to their followers, while at the same time guiding them toward satisfaction of organizational goal attainment needs. There is substantial evidence

> supporting the view that such transactions do underlie organizational membership, and that both the organization and the members have expectations that must be met in order for the exchange to be considered fair.
>
> [Jacobs, 1971, p. 96]

As a consequence of failing to meet their expectations either side will become dissatisfied and seek to terminate the relationship or modify it so that an equitable exchange is achieved. One of the critical expectations on the part of both groups is reward for benefits provided, the group expects certain behavior from its leader which it rewards with esteem, influence, etc. The leader, on the other hand, expects productivity from the group which he/she rewards through contributions to the group's/individual's needs (physiological through self-actualization). Jacobs discusses in detail the implications surrounding expectations, perception of rewards, success or failure of the group, and other aspects of this social exchange view of transactional leadership.

Hollander [1978] provides this view of transactional leadership:

> It is necessary to look at the leader - follower relationship, and not only at the leader. A fuller view of leadership needs to include followers and their responses to the leader. This process forms the basis for the transactional perspective, or approach to leadership.
>
> [Hollander, 1978, p. 1]

In outlining the features of this perspective, Hollander, emphasizes a "fair exchange" of benefits and rewards

between follower and leader. His description of the exchange theory is very similar to Jacobs' and need not be detailed here.

James MacGregor Burns, in contrasting transactional and transforming leadership, speaks of transactional leadership as:

> Occur[ring] when one person takes the initiative in making contact with others for the purpose of an exchange of valued things...Each party to the bargain is conscious of the power resources and attitudes of the other. Each person recognizes the other as a person. The bargainers have no enduring purpose that holds them together; hence they go their separate ways. A leadership act took place, but it was not one that binds leader and follower together in mutual and continuing pursuit of a higher purpose.
>
> [Burns, 1978, p. 19]

He further contends that it is the nature of transactional relationships to be short-lived, both leader and led having to move on as needs are fulfilled. "Most important, the transactional gratification itself may be a superficial and trivial one" [Burns, 1978, p. 258].

2. Transactional Analysis

Developed by Eric Berne [1964] and popularized in works by Thomas Harris [1969], Transactional Analysis (TA) is a method for analyzing the behavior exhibited in an exchange between people.

At the center of the model lies three ego states; Parent, the evaluative, rule enforcing state; Adult, the rational, decision making state; and, Child, the emotional

state. In the healthy individual a balance of all three states exists while in the unhealthy person any one state may dominate.

The transaction between two people is analyzed as a function of which state they are "dealing" from and to (stimulus/response).

The key to continued communication is parallel transactions. This implies, for example, a Parent addressing Child as stimulus would receive Child addressing Parent response. If the transaction is crossed, e.g. Adult to Adult stimulus receives a Child to Parent response, communications breaks down between the individuals.

TA analyzes both one-time and continuing transactions with a view toward identifying roles, working toward establishing parallel transactions, and reducing the games people play in their interrelationships. A game is a transaction in which the person is not being honest, some ulterior motive is driving the transaction.

Criticized as being too simplistic, the support and attention given TA in the last few years stems from this simplicity.

In 1973 the US Army Chaplain Corps, in response to a request from the Deputy Chief of Staff for Personnel, developed the Personal Effectiveness Training course (PET). PET used the principles of transactional analysis as developed by

Berne and Harris. Its primary focus was to provide training in communication and personal counseling. While the course no longer exists in its entirety, the concept is frequently discussed in unit and service school training.

Transactional and transactional analysis theories deal with the relationship between follower and leader as the result of some exchange. In the next section this exchange or expectation will be contrasted to the view expressed by Burns.

F. TRANSFORMATIONAL LEADERSHIP

Transformational leadership, as defined by James MacGregor Burns in his book Leadership, is:

> Transforming leadership, while more complex [than transactional], is more potent. The transforming leader recognizes and exploits an existing need or demand of a potential follower. But, beyond that, the transforming leader looks for potential motives in followers, seeks to satisfy higher needs, and engages the full person of the follower. The result of transforming leadership is a relationship of mutual stimulation and evaluation that converts followers into leaders and may convert leaders into moral giants.
>
> [Burns, 1978, p. 4]

The key to Burns' theory is moral leadership which "emerges from, and always returns to the fundamental wants and needs, aspirations, and values of the followers" [p. 4].

A political scientist, he draws from the experiences of leaders throughout history for examples. He defines leadership as:

> A function of complex biological, social, cognitive, and affective processes, that is closely influenced by the structures of opportunity and closure around it, that may emerge at different stages in different peoples' lives, that manifests itself in a variety of processes and arenas - in short, we have seen that the usual generalizations [traits, leaders being born and not made and vice versa] are without foundation.
>
> [Burns, 1978, p. 427]

Philosophical in nature, his arguments are not readily molded into the experimental design features for validity and reliability testing which seem the prerequisite for military training. What then is the value in including his theory? Simply put, it provides the stimulus needed to look at leadership from other than the behavioral scientists point of view. This refreshing insight will undoubtedly leave its impact on the armed services in the near future.

G. SUMMARY

The preceding literature review has provided the reader with a general orientation of those theories which have contributed significantly to the understanding of leadership. Despite the differences in perspective with regard to leadership theory and the characteristics of an effective leader development program, certain commonalities are found. Foremost is the role of the followers, their influence on the leader and reaction to his/her attempts to influence are paramount in determining the effectiveness of the leader and subsequently the success or failure of the organization.

The second major point of agreement, with the single exception of Fiedler, is that the leader is capable of modifying his/her style, behavior, attitude towards the follower. This change is contingent upon the effectiveness of the change agent, in this case training. Again Fiedler is heard as the one dissenting voice vis-a-vis other theorists on the efficacy of leadership training.

It is postulated that the ability of any training program to produce better leaders can only be assessed in light of its relative merits and demonstrated effect on the organization and individual leader. Broad generalizations about the capabilities of training to bring about change are inappropriate in this context.

In the following chapter the leadership training programs developed by each service are examined in light of the theoretical concepts reviewed here. Particular attention is focused on the environment in which the US Army's program, and consequently its evaluation, must operate.

III. LEADER DEVELOPMENT IN THE MILITARY

As stated in the introduction, the study of leader development is most appropriately considered in the context of systems presently in place. The systems applicable to this thesis, apart from the leadership training program itself, include the service's organization for training and the personnel management system. In this chapter these systems are reviewed for each service as a prelude to detailing their approach to leadership training.

In order to make the task of defining and comparing the various personnel systems manageable, only that portion of the system applicable to officers is studied.

A. UNITED STATES ARMY

1. Organization for Training

During the 1970's considerable change was seen in the organization and operation of the US Army. Significant among those areas affected was military training. This section details the current organizational structure as it pertains to the areas of policy, doctrine, research, and implementation of leadership training.

In 1973 a major Army-wide reorganization resulted in the creation of the Leadership Branch, Human Resources Development Directorate, Office of the Deputy Chief of Staff for

Personnel (ODCSPER). The function of this office is primarily one of monitoring the leadership issues in the Army and formulating policy.

Another organization created in 1973 is the US Army Training and Doctrine Command (TRADOC). As the name implies TRADOC is the proponent agency for developing, managing, and supervising the training of individual officers and enlisted personnel throughout the Army. It commands all Army service schools with the exception of the Army War College and the Military Academy.

As discussed in the introduction, the initial emphasis in TRADOC centered on the technical competence required for combat. This orientation first focused on the institutional training, i.e. service schools. Gradually, as it was realized that the majority of learning took place at the unit level, a decentralized approach was adopted. At this stage exportable training packages were developed for both the individual soldiers and units.

Under this decentralization the various service schools became the primary source of Army doctrine and training development. Each school evaluates proposed doctrinal changes within their area of expertise and forwards their recommendations to TRADOC for approval and implementation. In designing specific courses (such as the initial entry Officer Basic Course) the school incorporates its specialty training

with materials from other areas, proponency for which has been given to another school. A great deal of latitude is given each school in designing its courses. This has led to a wide variation in the approach taken toward the common military subjects, i.e. leadership. The result is that no two service schools approach the subject of leadership training with the same material or in the same manner.

Compounding this problem is a lack of a clear understanding concerning the proponency of leadership research, training development, and doctrine. Within the area of leadership training there are a number of agencies reporting to TRADOC. The US Army Infantry School (USAIS) is designated as proponent for the development of concepts and doctrine for military leadership. The Commander, US Army Administration Center (ADMINCEN) is tasked as "the proponent for the development of concepts and doctrine related to personnel management to include human resources development" [TRADOC Regulation 600-3]. Army Regulation 310-25, the dictionary of Army terms, includes leadership within the definition of "human resources development."

Other TRADOC agencies involved in leadership development include the Command and General Staff College which is primarily concerned with leadership battle roles and the Organizational Effectiveness Center and School which has recently received proponency for common tasks in the areas of;

communications, human relations, counseling, supervision, decision making, management sciences, planning, and ethics. These are also the areas identified in the organizational leadership model which will be discussed later.

Efforts within TRADOC to clarify proponency have centered on differentiating organizational leadership (ADMINCEN) from individual leadership (USAIS), though this distinction was never clearly specified.

Outside of the TRADOC chain of command the US Army War College and the Military Academy are both involved in leadership research and training development as it pertains to their particular curricula.

Within the area of leadership research the Army established a contract in 1951 with George Washington University for the establishment of a Human Resources Research Office. This office served as the Army's "principal research and development agency in the field of training methods training content, and training evaluation" [Lavisky, 1977, p. 107]. This contract was terminated in 1969 and the agency was separately incorporated as the Human Resources Research Organization (HumRRO). This new organization, comprised of many of the people who had previously worked for the university, provided the Army with a resource for "conducting studies and research and development on training, needs for training devices, motivation, and leadership" [Lavisky, 1977, p. 109].

During the 1973 reorganization of the Army the special contract with HumRRO was terminated and the training research integrated into an in-house organization. This in-house agency eventually came to be called the Army Research Institute for the Behavioral Sciences (ARI) and was assigned the mission of "conducting the Army's research and development program in human performance, military selection, behavioral evaluation, motivation, race relations, behavioral and social aspects of drug abuse, social change, soldier-community relations, career incentives, and training" [Lavisky, 1977, p. 152]. HumRRO still exists as a private corporation and does the bulk of the research work contracted out by ARI.

Because so many agencies were involved in some phase of leader development, the situation the Army found itself in as it entered the 1980's was one where:

> Leader research, concept development, and training development activities have been carried on unsystematically and with less than resource/cost effectiveness. As such there are undesignated proponencies; fragmented proponencies; multiple and shared proponencies for the same area; developmental efforts being conducted in semi-isolation; and disconnects between researchers, combat developers, and training developers.
>
> [DA, ADMINCEN, 1979, p. 26]

To address this problem an Army Leadership Action Planning Conference was convened in February 1980. Made up of representatives from all the agencies described above, the purpose of the conference was to draft a comprehensive plan to guide the Army's leadership training and development

activities. The attendees identified the following objective in the areas of policy, coordination, and integration of effort:

> Develop and implement policies and procedures that emphasize centralized planning and coordination and promote decentralized execution to support leader development.
>
> [Leader Development Plan, April 1980, p. 6]

Tasks and responsibilities designed to achieve this objective were also spelled out. The Deputy Chief of Staff for Personnel office is to prepare and coordinate an Army regulation on leader development that prescribes objectives, responsibilities, and administrative procedures by September 1981. TRADOC, by October 1980, is to designate a single integrating agency for leader development.

While it is far too early to judge the effectiveness of the conference, indications that the recommendations will be adopted are positive.

In the next section the second major system impacting on leader development, the personnel management system, is examined.

2. Personnel Management System

The Officer Personnel Management System (OPMS) is a comprehensive plan encompassing the assignment, promotion, evaluation, etc. of Army officers. Career progression, and in particular education and training, is the aspect of OPMS which is of greatest concern.

With the cost of equipping the military rising at a dramatic rate, the pressure has been building to cut back in other areas of the budget. In 1976 the Senate Armed Services Committee recommended reductions in the Army training organization. This was followed early the following year by the Office of Management and Budget's proposed minimums for education and training resource levels. These levels were far below what was then considered acceptable by the Army trainers. Since no major changes had been made in the system for many years (pre-Vietnam) the Chief of Staff of the Army directed in August 1977 that a Review of Education and Training of Officers (RETO) be conducted in order to:

> Determine officer training and education requirements based on Army missions and individual career development needs. Based on those requirements, develop training and education policies and programs which combine self-development, unit development, and institutional development in a phased schedule from precommissioning or preappointment training through career completion.
>
> [Review of Education and Training for Officers, 1978, p. I - 3]

The recommendations of that study called for a complete revision in the manner in which the Army trains its officers. At present many of these recommendations have been approved for implementation while others have been deferred pending further review. Figure 5 depicts the difference between the current and proposed systems.

Aware of the impending conversion to the new system,

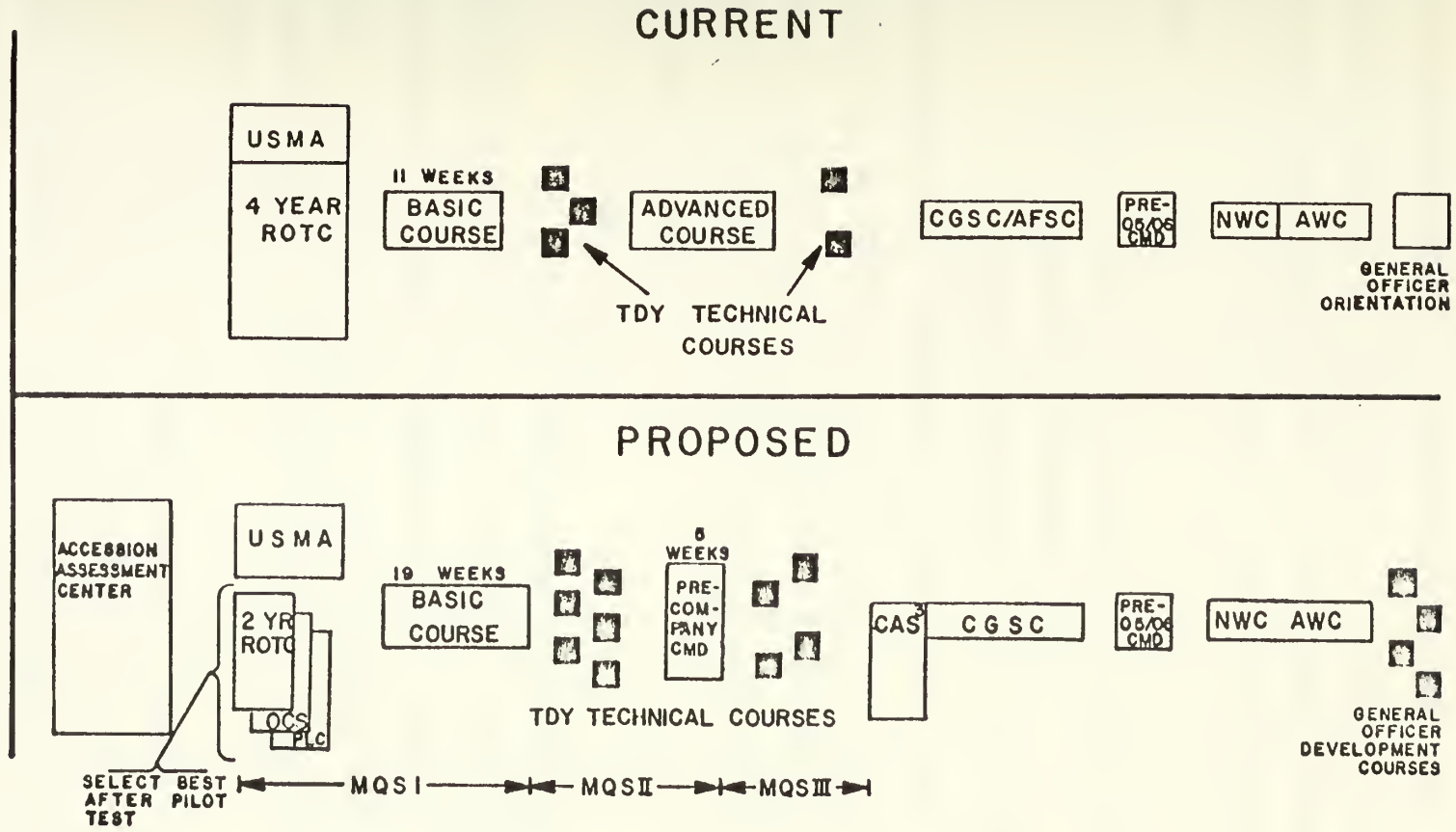


FIGURE 5. OFFICER EDUCATION & TRAINING SYSTEM

SOURCE: A REVIEW OF EDUCATION & TRAINING FOR OFFICERS, Headquarters Department of the Army, 1978.

the Leadership Action Planning Conference stressed the need to integrate plans for leader development with those RETO actions approved for execution. Accordingly, the plan for assessing the effectiveness of leadership training must be written in terms of the future state of training within the Army.

The elements of the proposed system include:

a. Accession Assessment Center

Potential Army officers will be tested using assessment center technology on motivation and leadership potential, as well as the traditional medical and physical fitness exams, prior to acceptance into ROTC training. Military Academy candidates are currently exposed to this selection process.

b. Basic Course

All newly commissioned officers will attend an expanded basic course. Upon arrival at the school they will be required to pass a diagnostic test. This first step in a series of Military Qualification Standards (MQS) will insure a common body of knowledge and skills regardless of the commissioning source.

Previously twelve weeks in length, the new courses will average nineteen weeks. The officer will be taught those skills required in the first three years of service. He/she will validate these skills through on-the-job

performance in order to become MQS II qualified.

c. Temporary Duty Schooling

Some of those skills which were previously taught in the Advanced Course may be covered in the expanded Basic Course or delayed until staff schooling. The majority, however, will be covered in temporary duty schools such as a Pre-Company Command Course of approximately five weeks duration.. Throughout this stage of an individuals career functional (technically oriented) schooling in a TDY status will be offered. Self-development by means of non-resident instruction, college courses, and a professional readings requirement will be strongly encouraged. Before the tenth year of service all officers must have completed MQS III to be eligible for staff schooling.

d. Combined Arms and Services Staff School (CAS^3)

All new majors will attend CAS^3 to provide them with some training in staff procedures. Approximately seven weeks in length, the proposed course of instruction calls for 24 hours of leadership instruction (ethics, group dynamics, and organizational effectiveness).

e. Command and General Staff College (C&GSC)

Approximately 40% of those majors completing CAS^3 will be given advanced training in general staff skills at C&GSC (or the equivalent sister service school). Initially RETO recommended 20% attend this ten month school. In April

1980, however, the Commanding General, TRADOC, approved the elimination of the Advanced Courses providing the present 40% attendance rate be retained.

f. Precommand Course

Lieutenant Colonel's and Colonel's selected for command now attend five seperate TDY courses (legal, maintenance, training, tactical, and command development). It is proposed that these courses be tailored to the position. This tailoring would require a detailed front-end analysis of each command billet.

g. Senior Service College

Little change from the present system is called for in the new system. The conduct of joint and combined land warfare, as taught at the Army War College, remains a current training requirement.

h. General Officer Development

To provide a system to meet the continuing education and development needs of General Officers a three phase training program was proposed. It consists of transitional, orientational, and developmental training. Specifically called for are a two to six week interassignment course, periodic mandatory executive update seminars, and major command sponsored periodic Senior Commander/Manager workshops.

The salient points of the new education and training

system, with regard to leadership training, are: (1) the use of assessment center technology/methodology is actively being pursued; (2) primary emphasis on leader development will take place in the units, schools being reserved for technical (hard skill) subjects, and; (3) with the expansion of the basic course fewer classes per year will be held at each school. With fewer classes the class size will have to increase to maintain the same throughput. This, in turn, will limit alternative methods of instruction necessitating increased use of the lecture. Redirection of assets from the Advanced Courses may obviate this problem.

3. US Army Leadership Training

In 1971 the US Army War College was directed by the Chief of Staff, General William C. Westmoreland, to study Army leadership. Their findings, along with those of the Continental Army Command's Leadership Board, pointed out the wide disparity in satisfaction with Army leadership across ranks. This despite a common understanding of its importance. The recommendations made in this study, Leadership for the 1970's, ushered in a decade of considerable research.

It is from this study that the Army War College's Leadership Monograph Series began. The series is "dedicated to keeping Army leaders informed on a broad range of pertinent techniques of leadership and management" ["Consolidated Army War College Leadership Monograph," 1975, p. iii]. On

1 September 1974 ADMINCEN assumed responsibility for the continuation of the series from the War College.

In 1975 the Deputy Chief of Staff for Personnel tasked ADMINCEN to develop a single leadership model to provide for progressive leadership instruction, identify leader skills required at each level of experience, and identify leadership training requirements from precommissioning to senior service college levels. Monograph # 7 of the series, "A Progressive Model for Leader Development," represented the first step toward that goal.

The model developed by Clement and Zierdt [1975] is depicted in figure 6. It proposes that leader development is contingent upon the interaction of three variables: motivation (attitudes); skills and knowledge, and opportunity. Assuming that soldiers generally enter the military system with a "positive attitude, and...reasonably well motivated" [Clement and Zierdt, 1975, p. 16], development is primarily dependent on: (1) The skills and knowledge acquired in the service school system, and; (2) The opportunities in the unit which the personnel management system makes available. This second factor addresses the unit commander's responsibilities in developing his/her subordinates by providing the supportive climate necessary for the application of skills and knowledge.

The development of a base line doctrine followed in the eight monograph of the series. Its objective was to

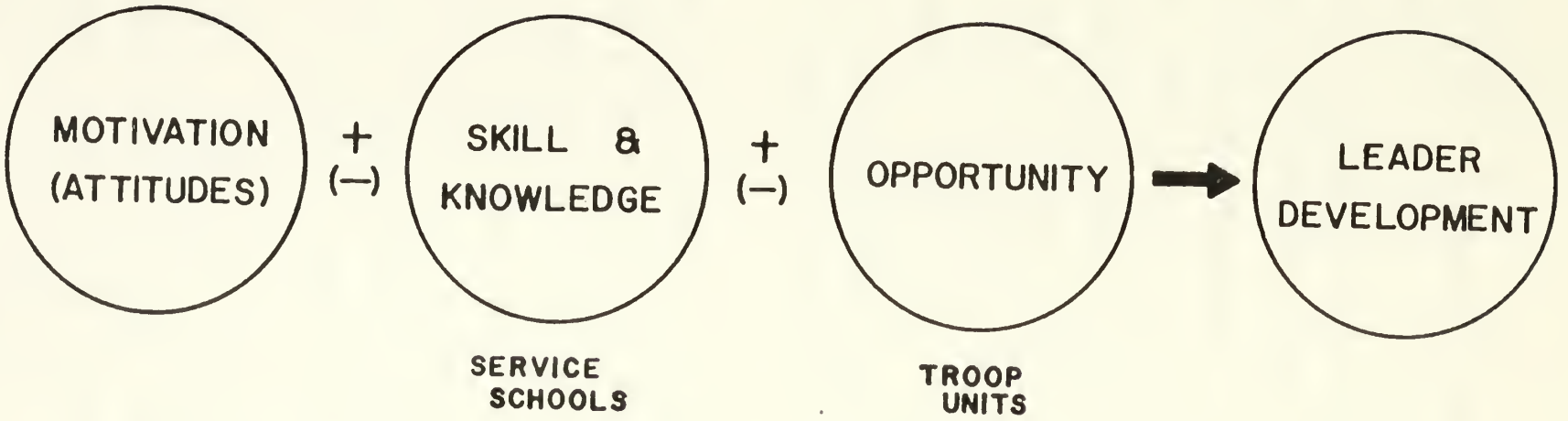


FIGURE 6. LEADERSHIP DEVELOPMENTAL MODEL

SOURCE: LEADERSHIP MONOGRAPH NO. 7 "A PROGRESSIVE MODEL FOR LEADER DEVELOPMENT," Stephen D. Clement & William H. Zierdt, 1975 p. 15.

arrive at a "taxonomy" of managerial and leadership dimensions by position level. A taxonomy (a classification scheme that clarifies terms and concepts which would otherwise remain vague) was desired in order to permit the evaluation of the effectiveness of training programs by specifying, in explicit behavioral terms, what constitutes effective organizational leadership. Clement and Ayres [1976] define organizational leadership as reflecting "two primary characteristics: on the one hand, leadership effects are oriented toward organizational objectives; on the other, leadership roles are established by the organizational structure so that positions of leadership are imposed on the group" [Clement and Ayres, 1976, p. 3].

The initial development of these dimensions was based on a review of the literature which included; Ohio State studies; University of Michigan studies; and other behavioral, communication, military, and management literature.

From this review, nine dimensions of organizational leadership and five organizational levels were identified, [see figure 7]. Appendix A defines each dimension and subdimension.

In May 1977 Monograph # 9, "Organizational Leadership Tasks for Army Leadership Training," applied the first phase of TRADOC's instructional systems design (ISD) model to those dimensions previously identified. The first step was to catagorize the dimensions by skill area, this resulted in

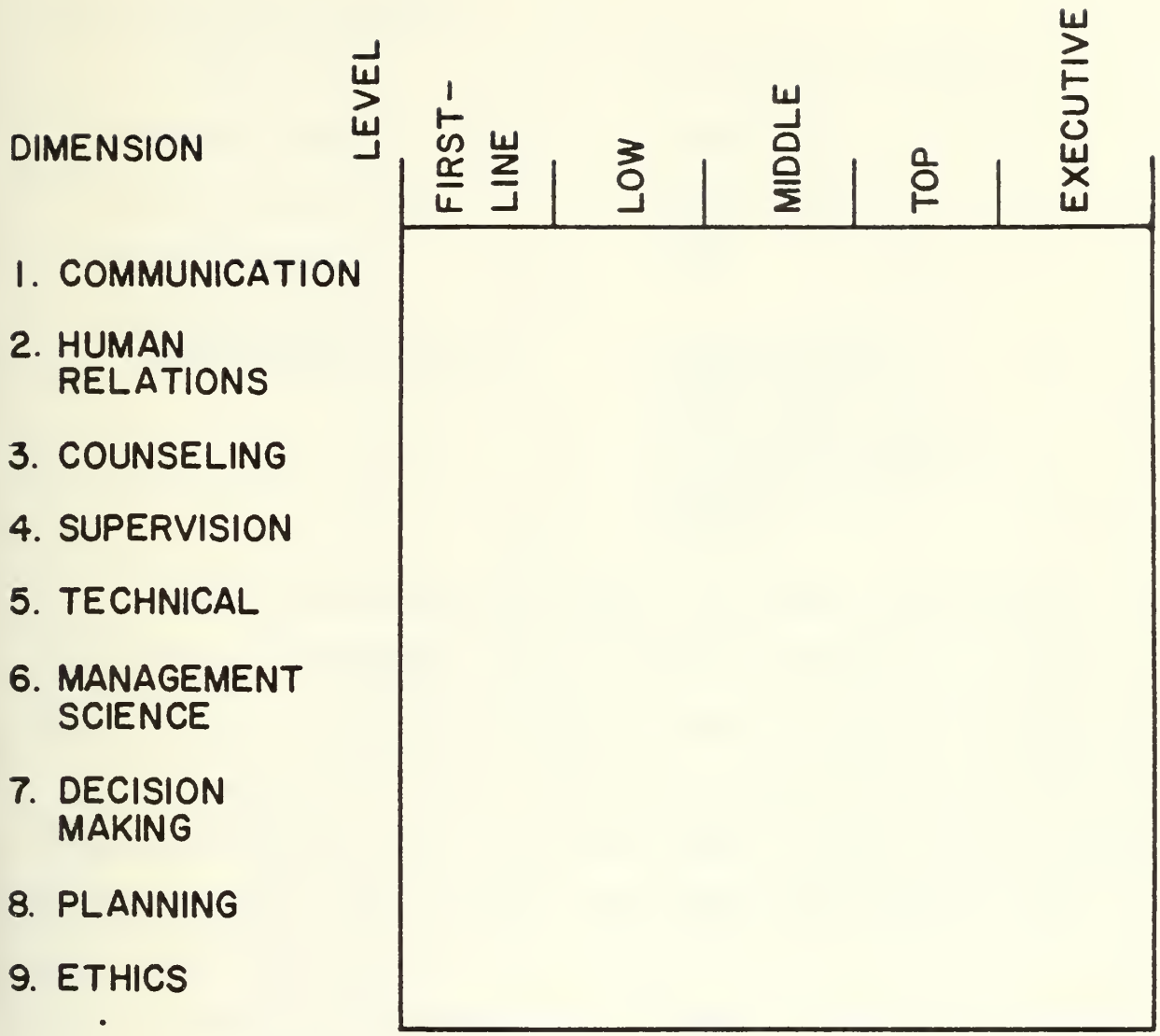


FIGURE 7. A MODEL FOR ANALYZING ORGANIZATIONAL LEADERSHIP

SOURCE: LEADERSHIP MONOGRAPH NO. 8 "A MATRIX OF ORGANIZATIONAL LEADERSHIP DIMENSIONS," Stephen D. Clement & Donna B. Ayres, 1976, p.14.

the following breakdown:

Skill Area	Leadership Dimension
Technical Skills	Technical
Collective Skills	Supervision
Support Skills	none
Organizational Effectiveness Skills	Communication Human Relations Counseling Management Science Decision Making Planning Ethics

Step two involved applying the TRADOC curriculum development methodology for clarifying components in behavioral terms. An example of this process is shown in figure 8.

Monograph # 9 was, therefore, intended to provide the training developer with a starting point in the Instructional Systems Design (ISD) process from which instructional packages could be written.

The Leadership Committee, USAIS, convened a leadership seminar in September 1978 to develop a list of competencies based not on a literature review but from a brain-storming of the assembled leaders and to study the applicability of the leadership matrix. This seminar, and a follow-up one several months later made only two changes to ADMINCEN's matrix. The technical competency was removed in view of the fact that the individual service schools had already been assigned proponencies and that it need not be considered again in this forum. Secondly, the sub-dimension

COMPETENCY - INTERPERSONAL COMMUNICATION

SKILL - LISTENING

TASK - LISTENING EMPATHICALLY

LEARNING OBJECTIVE - IDENTIFY FACTORS THAT AFFECT LISTENING ABILITY

ENABLING OBJECTIVE - DEMONSTRATE IN CLASS THROUGH GROUP DISCUSSION ACTIVE LISTENING TECHNIQUES

STANDARD - DESCRIBE ORALLY DURING GROUP DISCUSSION ACTIVE LISTENING TECHNIQUES

CONDITION - GIVEN AN NCO WHO HAS REACHED A CROSSROAD IN HIS CAREER, RESPOND TO HIS NEED TO DECIDE WHETHER TO STAY IN THE ARMY OR TO LEAVE

FIGURE 8. CURRICULUM DEVELOPMENT METHODOLOGY

SOURCE: LEADERSHIP MONOGRAPH NO. 9 "ORGANIZATIONAL LEADERSHIP TASKS FOR ARMY LEADERSHIP TRAINING," Stephen D. Clement & Donna B. Ayres, 1977, p. 7.

"Intrapersonal" was added to the "Communication" dimension.

A number of products have been designed to support the development of leadership training at the service schools based on the matrix. USAIS has published a leadership task list, more comprehensive than Monograph # 9, which was the result of the second leadership seminar held in March 1979. This list is intended to provide a common base for course development. It was, however, acknowledged that how and when the material is integrated into the present courses (if at all) is still the prerogative of the individual schools. USAIS has also developed lesson plans, complete with tasks, conditions, and standards, for each dimension and level up through company grade officer. These are available to the schools to assist them in their leadership training program.

Despite these efforts to standardize leadership training, the schools have been slow to adopt the material. Some training developers feel resistance from the ISD managers over the difficulty of expressing the dimensions in the proper format. Clement and Ayres [1977] addressed this problem in Monograph # 9:

> Up to now, most of our training focus has been grounded in the "transfer of identical elements" in which learning is presumed to occur only if the identical elements present in the old situation are present in the new situation. This learning theory is fine if we can successfully identify all of the elements to be learned. Unfortuantely, "soft skills" such as leadership skills are not amenable to a comprehensive delineation of discrete elements. For this reason, a shift to the transfer-of-principles theory allows us to assume that the

> leader can generalize his learning: the learner need not be aware of the presence of identical elements in a stimulus situation because transfer will occur when he applies those principles having sufficient generality to cover a class of stimuli which are learned in past specific situations.
>
> [Clement and Ayres, 1977, p. 3]

Field Manual 22-100 has been rewritten to support leader development at the individual and unit level through the adoption of the organizational leadership matrix. This manual, the first of three, is designed for the lower and first-line levels of the matrix. Plans currently call for two additional manuals, one for middle and top (field grade) officers, and eventually a senior (executive) level manual.

In a separate effort to support the units, a training package, called Leadership and Management Development Course, (L&MDC), has been implemented. Initially fielded in 1975 at three installlations, its success warranted expansion to all installations and division level units.

An experience based workshop, it is conducted by instructors certified by the Organizational Effectiveness Center and School. The purpose of the course is to: (1) Develop an understanding of one theory of work-team development; (2) Develop an understanding of the situational appropriateness of various managerial styles, and; (3) Introduce communication skills essential to effective mission accomplishment through people, which will make participants more effective as group managers and members.

The course is a one week workshop presented to small groups (10 - 12) composed of peers (equivalent rank) who do not have a work relationship. A one day follow-up is conducted approximately six weeks after the course completion. It was originally designed for E-5 through O-3 and equivalent civilian grades but since then a modified version for O-4 through O-8 has been designed.

Appendix B lists the key learning objectives of the L&MDC in order of presentation. This list should provide sufficient insight into the course curriculum. The conduct of the course utilizes the methods of adult or experiential education. "They will find themselves actually involved in problem solving situations which provide real feelings of satisfaction or frustration. They will be providing and receiving information about their leadership behavior in the course and that of their co-participants" [DA, OEC&S, 1979, p. 2].

A major reason for the program's success is that it is unit-based training, that is, personnel discuss real-life problems and situations during the workshop and return to their units immediately after training. However, it has been realized that because the participants do not have a work relationship, there is no opportunity for mutual reinforcement of learning upon return to the unit.

Evaluation of L&MDC currently consists of administering

a survey at the end of the course and six weeks later at the follow-up session. The participant survey is designed to solicit feedback from the students on both the presentation and the perceived relevancy of the course.

In a 1975 study, A Comparison of Three Experimental Learning Programs: SKIM, PET, L&MD, the advantages and disadvantages of L&MDC were discussed. These remain applicable today and are presented in Appendix C.

4. Summary

In this section the three major subsystems of leader development within the US Army have been examined, the organization for training development, the officer personnel management system (training and education subsystem), and the leadership training model. Throughout, it has been demonstrated that this is a system subject to many changes, yet one which has recently been given new guidance and direction. Much of this direction, in the form of influencing the RETO study, came from the other military services. In the following sections the leader development of these services are presented.

B. UNITED STATES NAVY

1. Organization for Training

Unlike the Army, the Navy operates a far more centralized education and training system with respect to leadership training. At the top of this system is the Deputy Chief

of Naval Operations for Manpower, Personnel and Training (OP-01). Directly subordinate is the Human Resources Management Division (OP-15) whose mission is to:

> Develop plans and policies and establish programs, procedures, and improved practices in the Naval organization which support increased unit and personnel effectiveness, improved leadership and management, enhanced career satisfaction and increased personnel motivation.
>
> USN, Officer Personnel Newsletter
> Fall 1979, p. 3

To fulfill this mission a Human Resource Management Support System (HRMSS) has been planned to coordinate the Navy's programs in the following five areas: (1) Organizational Development; (2) Leadership and Management Education and Training; (3) Equal Opportunity; (4) Overseas Duty Support, and; (5) Drug and Alcohol Abuse. This section will concern itself solely with the leadership program.

As training policy coordinator, the Director, HRM Division (OP-15), works closely with the Chief of Naval Education and Training (CNET) on the development, management, implementation, and evaluation of leadership training, specifically the Leadership and Management Education and Training (LMET) courses. Currently this relationship between OP-15 (program sponsor) and CNET is modified so that OP-15 retains curriculum control over the LMET program, typically a CNET responsibility.

In the area of research there are two organizations which work on issues related to leadership training. The

Office of Naval Research has primary responsibility for the theoretical or basic research which is conducted. This research-in-science phase is commonly referred to as 6.1 funds and involves the awarding of contracts to scholars in the behavioral science field (among others).

Progressing along the continuum of research development to the 6.2 funds the major effort in this research-in-technology phase is aimed at solving military problems, short of major program development. That is, how can the efforts in the first phase now be applied to problems in the military. This job of applied research is undertaken by the Naval Personnel Research and Development Center, (NPRDC), San Diego, whose mission is to:

> Conduct human resources RDT&E in the areas of manpower, personnel, education, and training, and serve as the coordinating agency for all human resources RDT&E for the Navy.
>
> [DN, NPRDC, 1978, p. iii]

2. Personnel Management System

A Naval officer's transition through the training and education system depends to a great extent on his or her warfare specialty. There are three major divisions of officers within the Navy: Unrestricted Line, Restricted Line, and Staff Corps. This discussion will focus on the largest division, the Unrestricted Line, and specifically on its major specialty, Surface Warfare. Other warfare specialties in this division include Aviation and Nuclear

Submarine.

Officers entering the Surface Warfare Community are sent to a 16-week Surface Warfare Officers School (SWOS) where emphasis is placed on those functional areas necessary to prepare the individual for watch and division officer duties. Prior to the introduction of LMET at all initial training sites the Surface Community was the only specialty offering its newly commissioned officers leadership and management training. [Spencer, 1978, p. 121]

After SWOS the initial sea tour will usually be as a division officer in either the Engineering, Weapons, or Operations Department. Within this tour he/she is expected to qualify as a Surface Warfare Officer. Qualification is guided by the Personnel Qualification Standards (PQS) program. PQS is an outline of the various items an individual must accomplish to be certified (certification being made by the ship's Captain). It consists of: (1) Fundamentals, knowledge necessary to do the job; (2) Systems, man/equipment interface; and, (3) Watch Stations, procedures. Qualification is a prerequisite for attendance at the next level of formal training, Surface Warfare Officer Department Head Course.

Attendance at this course during the first shore tour qualifies the officer to serve in any one of the principal department head positions. During the next sea tour the officer is encouraged to prepare himself/herself for the command qualification examination which is required for

command of a surface ship. After three years (18 months each on two classes of ships) the officer usually commences the second shore assignment.

During this assignment attendance at the Postgraduate School or staff college can be anticipated (if qualified). The one-year College of Naval Command and Staff (equivalent to the Army's Command and General Staff College) is collocated with the Navy's College of Naval Warfare. Officers do not attend both schools. "The Navy places little emphasis on attendance at a staff or war college -- just over 10 percent of the eligible Naval officers attend at [either] of these levels. Command, not formal education is a pathway to stars" [Review of Education and Training for Officers, 1978, p. G-2-11]. Training at both colleges is divided into: (1) Maritime strategy and policy and their interrelationship with foreign policy; (2) Defense economics and decision making to allocate national resources in accordance with national goals and strategy, and; (3) The employment of naval forces to accomplish the four-fold mission of strategic deterence, naval presence, sea control, and projection of power overseas.

Previous specialized training (e.g. Postgraduate School during the first shore tour) will be utilized the first two years of the second shore assignment with the possibility of staff college during the last year.

After selection for lieutenant commander (04) and

recommendation for assignment as an executive officer (or command in a very few cases) the officer attends the Prospective Executive Officer (PXO) Course. This five-week course (two weeks of leadership training) had previously been the first formal leadership and management training received regardless of specialty.

During the third and subsequent shore assignments the officer can expect to fill any of the following five catagories of billets: (1) Operational assignment requiring utilization of Surface Warfare Officer qualifications; (2) Billets in the area of his/her subspecialty; (3) General unrestricted line billets appropriate to the grade; (4) Senior service college attendance, or; (5) Washington duty.

The majority of the Surface Warfare Officer commander (05) sea assignments are as Commanding Officers of ships. Initially screened for command the year in which they are selected for promotion, the individual's record is considered each year until selected for command or until he/she enters the secondary promotion zone to captain (06). Those selected are ordered to command via the six-week Prospective Commanding Officer (PCO) Course which include two weeks of LMET.

In summarizing the Navy's training and education system, it is apparent that it has had a significant impact on the remodeled Army system. The attainment of Military Qualification Standards during the Army Officer's first ten years is very similar to the Navy's Personnel Qualification Standards. Both programs being designed to insure that

officers obtain the fundamental skills essential to their specialty. The assignments and schools addressed in this section are summarized on figure 9.

3. US Navy Leadership Training

The 1975 BUPER's study refered to in the previous section was a turning point in the Navy's approach to leadership training. The program which has evolved from that study is clearly the most integrated and systematic program of any service. Its development warrants a detailed examination.

Lyle M. Spencer [1978], in summarizing the results of that study, noted the following:

a. A majority of naval commissioned and non-commissioned officers did not receive any leadership and management training at key ascension points in their careers (e.g. Division Officer, Department Head, Executive Officer, etc.).

b. 157 different leadership courses existed at that time [1975] in the various commands.

c. An examination of the content of the existing courses found: (1) There was no standard curricula or consensus about what knowledge or skills were needed to perform effectively as a Navy leader. Courses consisted of a combination of Navy tradition, rules, regulations, civilian academic management theories, and a few offerings from the behavioral sciences; (2) Courses lacked any foundation in empirical research; (3) Courses were 90 percent cognitive and 10 percent experiential. They consisted primarily of talking

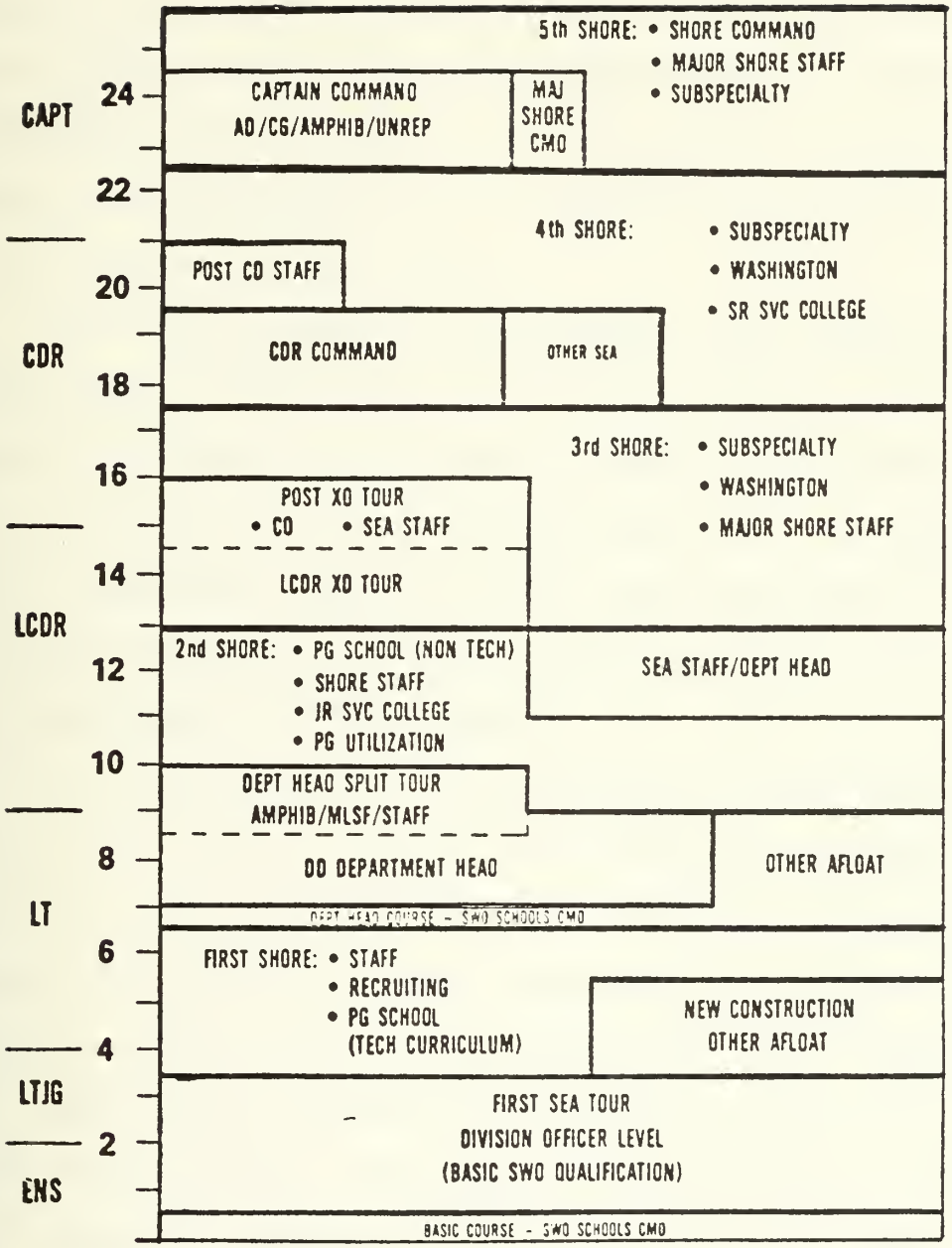


FIGURE 9. SURFACE WARFARE OFFICER PROFESSIONAL DEVELOPMENT PATH

SOURCE: UNRESTRICTED LINE OFFICERS CAREER GUIDEBOOK, NAVPERS 15197A, 1979, p. 36.

at people about leadership and management in formal classroom lecture formats rather than teaching them actual leadership and management skills, and; (4) While the courses were well received, the participants had difficulty in relating what they had learned to their jobs.

To correct these problems BUPER's (now OP-01) sought to develop an empirically based training program, that is, based on the actual skills used by superior performers. Confronted with the task of identifying those competencies (skills, knowledge, and motivation) which determine or predict effectiveness in a leader a research method developed by David McClelland [1976] was used.

Realizing that it is much easier to reach consensus on who is an effective leader vice what makes an effective leader, the first step was to identify a group of superior and a group of average leaders for each ascension point. These ratings were made by the commanding officers and, where possible, verified by examination of retention rates, "E" awards, and inspection scores. This was first undertaken in San Diego during the September -- October 1976 time frame. A sample of eighty-two officers and enlisted personnel were obtained, however, only 51 ratings were received on the 82 people interviewed. Of these 51, 30 were rated superior and 21 average.

The next step involved interviews utilizing a technique termed Behavioral Event Interviewing (BEI). In it,

the leader is asked to relate some critical incidents, that is, important success and failure experiences they have had in their present jobs. Specifically requested was information concerning: (1) What led up to the experience; (2) Who was involved; (3) What they (the leader) felt, wanted, or intended in responding to the situation; (4) What they actually did, and; (5) The outcome or results of the action taken. After several incidents from each person were gathered, a comparison of those factors which distinguished between the superior and average leaders was made.

> Two or more researchers independently examined the interview transcripts...to identify distinguishabe individual characteristics which appeared to differentiate superior from average performers and those which were expressed with equal frequency by all performers were identified.
>
> [Klemp, et al., 1977, p. 12]

From the initial interviews of the rated personnel in the Pacific Fleet twenty-seven competencies, grouped into five clusters, were identified as distinguishing leaders. These competencies are listed in the left hand column of figure 10 as "LMET Competencies."

In order to validate these competencies the same procedures were applied to a similar cross-section of personnel from the Atlantic Fleet in February 1977. This time, however, the leaders were interviewed prior to being rated by their superior. Based on a factor analysis of the Pacific Fleet results (the fifth factor, Coercion was not used) a prediction of group membership (superior/average) was made

LMET COMPETENCIES

TASK ACHIEVEMENT

- CONCERN FOR ACHIEVEMENT
- TAKES INITIATIVE
- SETS GOALS
- COACHES
- TECHNICAL PROBLEM SOLVING

SKILLFUL USE OF INFLUENCE

- CONCERN FOR INFLUENCE
- INFLUENCES
- CONCEPTUALIZES
- TEAM BUILDS
- REWARDS
- SELF CONTROL

ADVISING & COUNSELING

- LISTENS
- UNDERSTANDS
- HELPS
- POSITIVE EXPECTATIONS

MANAGEMENT CONTROL

- PLANS & ORGANIZES
- DIRECTS
- DELEGATES
- OPTIMIZES (PEOPLE-TASK)
- MONITORS RESULTS
- RESOLVES CONFLICTS
- GIVES FEEDBACK

COERCION

- COERCES
- NEGATIVE EXPECTATIONS
- DISCIPLINES
- ACTS IMPULSIVELY
- FAILS TO RESOLVE CONFLICT

LMET CURRICULUM

CONCERN FOR EFFICIENCY & EFFECTIVENESS

- SETS GOALS & USES PERFORMANCE STANDARDS
- RECOGNIZES OTHER ACHIEVEMENTS
- TAKES PERSONAL RESPONSIBILITY TO SOLVE PROBLEMS
- CAN ACCOMPLISH & TRAIN OTHERS TO DO THE JOB
- PROMOTES COOPERATION TO INCREASE PRODUCTIVITY
- LOOKS FOR WAYS TO IMPROVE WORK
- MONITORS OWN & OTHERS PERFORMANCE
- USES CHAIN-OF-COMMAND

SKILLFUL USE OF INFLUENCE

- APPROPRIATELY USES AUTHORITARIAN CONTROL
- ATTEMPTS TO CONVINCE OTHERS
- STIMULATES PEOPLE TO WORK
- MAINTAINS SELF-CONTROL DURING CONFLICT

ADVISING & COUNSELING

- DEMONSTRATES POSITIVE CONCERN
- LISTENS TO OTHERS
- ACCURATELY HEARS THE PROBLEM
- SUGGESTS & CLARIFIES ALTERNATIVES

PROCESS MANAGEMENT

- OPTIMIZES PERSONNEL, EQUIPMENT, & TIME
- MONITORS HOW WELL A PLAN OF ACTION IS CARRIED OUT
- GIVES & RECEIVES FEEDBACK

PROBLEM SOLVING

- GETS INFORMATION
- FORMULATES A GAME PLAN
- TESTS ASSUMPTIONS PRIOR TO IMPLEMENTING ACTION
- DECIDES WHEN TO DELEGATE OR SEEK HELP

FIGURE 10 INITIAL COMPETENCIES AND CURRICULUM

SOURCE: "LMET, THE CHANGE" THE NAVY HUMAN RESOURCE MANAGEMENT JOURNAL, Gary S. Mangus, 1980, p. 27, 28

for the Atlantic Fleet. A discriminant function showed that in 67.9% of the cases the leader was correctly identified as superior or average ($p < .001$). For this analysis only 78 of the 100 leaders interviewed were rated (38 superior and 40 average).[Klemp, et al., 1977]

In May 1977 a committee comprised of the representatives of the program sponsor (OP-15), CNET, and the Chief of Naval Technical Training met to design the first four of fourteen ascension level specific courses. To the right of the initial competencies in figure 10 is a list depicting how the competencies were formed into curriculum clusters.

> During the initial stage of Curriculum development, "management control"...was divided into two areas "problem solving" and "process management." The reason for doing this was that students could first look at problem solving through planning, processes, conceptualizing, and forming an action plan. Process Management then deals with optimizing people and resources. Coercion, being a type of influence, was established that even though it separated superior and average performance, superiors used it less and as a last resort. Therefore, for instructional purposes, it was included under the dimension of "skillful use of influence." Finally, the cluster title "task achievement" was changed to "concern for efficiency and effectiveness."
>
> [Mangus, 1980, p. 28]

A trial course was conducted in June 1977 with favorable results. During this period of curriculum development and pilot testing a second validation effort was undertaken.

This second effort (August through October 1977) sought to gather data from a sufficiently large enough sample

to verify competencies across all levels and warfare communities. To do this a battery of nine paper and pencil tests were developed covering fifty separate scales or variables. This test was administered to 1,200 officers and enlisted personnel.

A competency was regarded as validated if one or more of its indicator variables[2] was significantly correlated with the superior's rating of performance. This in one or more of the following billet groups: (1) Commanding Officer and Executive Officer; (2) Department Head and Division Officer; (3) Master and Leading Chief Petty Officer, and; (4) Leading Petty Officer and Petty Officer.

Sixteen of the original twenty-seven competencies from the Pacific and Atlantic Fleet interviews were validated in this manner. These competencies, grouped by curriculum cluster, are presented in figure 12 and defined in Appendix D.

These sixteen competencies form the core of the two-week LMET course with variations on course content being made for each ascension level school. LMET schools have been established for the following levels; PCO/PXO, Department Head, Division Officer, Chief Petty Officer, and Leading Petty Officer. Recruits will not receive LMET training but will be exposed to the concepts as modeled by their instructors and company officers. The instructors at these LMET schools are all trained and certified at the Human Resources Management

School, Naval Air Station Memphis, in the twelve-week LMET Instructor Course.

During each course the student progresses through a five-step process:

a. Recognition. Each competency is explained in terms of desired knowledge, skills, attitudes, etc. and how this contributes to the performance of the superior Navy leader.

b. Understanding. The participant translates the competency by means of his/her own experiences into language with which they are comfortable.

c. Self-Assessment in relation to the competency. Each student is able to identify areas in which he/she is strong or needs new skills.

d. Skill acquisition and practice. All skills are practiced with emphasis on those the individual has identified as needing improvement in.

e. Job application. Participants develop individual action plans for application on their job. This step reinforces learning and gains commitment to the competencies desired by the Navy.

At the unit level, the teaching of formal LMET courses by uncertified instructors is prohibited, as is the modification of LMT courses (those addressed in the 1975 study) to include LMET precepts and procedures. It is envisioned that LMET team building workshops can be designed which will

be administered through the Human Resources Management Support System. These workshops will bring to the unit level the latest refinements of the LMET program and reinforce individual skills.

It is important to note that the changes in course content were based on validation and not evaluation studies. Presently a funding shortage is prohibiting a comprehensive external evaluation (measures designed to assess actual changes in job behavior or organizational performance) as designed by NPRDC. On the other hand, CNET is progressing toward an internal evaluation plan to determine whether the course is actually teaching what it was designed to teach. This effort centers on:

a. The development of a standardized student critique form for all LMET sites.

b. Posttraining tests to assess student performance. McBer and Company is still involved in this aspect of the evaluation.

c. Assessment of the student by the instructor.

It is estimated that one year will be required for funding and program writing. All inputs to the evaluation will be computer scored and analyzed for possible course revisions.

One matter which complicates the evaluation process is the Navy policy that personnel will not be denied LMET

training for the purpose of establishing a control group.

In a proposed Human Resources Management Support System (HRMSS) Navy Training Plan the establishment of an Evaluation and Information office is called for. The purpose of this office will be to formulate a summative evaluation design and collect data on all aspects of the HRMSS. This will be an ongoing effort and include LMET as an element of that system.

The principal benefit in reviewing the Navy's approach to education and training has been in contrasting the highly centralized approach towards leadership training with the Army's decentralized system. The result being a fairly rapid implementation of a major program (LMET) as compared to the many years spent in developing a base line doctrine for leadership training in the Army. In the next section another centralized approach is reviewed, the US Air Force.

C. UNITED STATES AIR FORCE

1. Organization for Training

Like the Navy, the Air Force operates a very centralized training system with regard to its Professional Military Education (PME). The Commander, Air Training Command, has proponency for each level of education in an officers career from precommissioning through senior service college. Under his operational control fall the following

PME schools Squadron Officer School (SOS), Air Command and Staff College (ACSC), and the Air War College (AWC). All of these schools are located at Maxwell Air Force Base, Alabama.

These schools differ from the purely technically oriented schools in that PME encompasses the knowledge unique to the profession of arms in general and the employment of aerospace power in particular. Within the schools' curricula are; national security affairs, military history, leadership, management, professional ethics, and standards of behavior.

Through this organizational differentiation between PME schools and the functional or technical schooling the Air Force, more than any other service has developed the distinction between education and training. Education being the more general and abstract while training more specific and concerned with the development of job specific skills.

Each of the PME schools listed above has its own leadership curriculum development branch. The doctrine and policy which guides the programs is formulated at the Air Force Chief of Staff level by the Director of Personnel Plans.

Research in leadership related areas is conducted by the Occupational Measurement Center at Lackland AFB. This organization performs a task analysis for officer

positions and recommends the type of training or education needed to perform that task. Their work has been used to identify the eight dimensions of leadership which are detailed in the third section.

The Air Force Human Resources Laboratory, Brooks AFB, has provided limited research in the leadership area, most of which has been confined to literature reviews. Both the laboratory and the center are under the operational control of the Air Force Systems Command.

A third agency which has indirectly aided the research effort is the Leadership and Management Development Center (LMDC), Maxwell AFB. This agency is tasked with identifying systematic issues in leadership and management for Air Force commands. Their mission is similar to the Navy's Human Resource Management Center's/Detachment's and the Army's Organizational Effectiveness Staff Officers.

LMDC teams administer surveys designed to measure such variables as satisfaction, productivity, attitude, and leadership traits and behaviors at all levels of the base's or unit's chain of command. Over the past two years the center has compiled sufficient data to conduct an analysis of the leadership variable. These data have been provided to the curriculum developers at each PME school to aid them in the design of their leadership training programs.

2. Personnel Management System

The career pattern, with respect to formal schooling,

for the Air Force officer is different than that of either the Army or Navy system reviewed so far. Officers other than rated officers (pilots and navigators) and certain technical specialties (missle, communications, computer, aircraft maintenance, and security police) proceed directly from their commissioning source to an assignment. Those that do go to a school after commissioning receive technical instruction only, no leadership or management training.

The Squadron Officer School provides the first level of formal Professional Military Education to all officers between their fourth and eight year of service. The SOS is a short (11 week, temporary duty) course which focuses on command and staff capabilities rather than further specialty development. It is essentially a leadership school for company grade officers.

The Air Command and Staff College provides the intermediate level of PME to approximately 20 percent of Air Force officers who attain the rank of major. A 40 week resident course, its mission is to "provide mid-career officers with the skills, knowledge, and understanding that will enhance their value to the Air Force for the balance of their careers in responsible command and staff positions" [Review of Education and Training for Officers, 1978, p. G-1-6]. This mission has been translated into eight specific course goals in the areas of; common staff goals, specific staff skills, specialist

skills, broaden knowledge of the Air Force, broaden view beyond the Air Force, and research.

At the senior level the Air War College provides PME to approximately eight percent of those officers selected for the grade of lieutenant colonel. The College's mission is to prepare selected officers for key command and staff assignments which it does by placing emphasis on airpower strategy and employment.

3. US Air Force Leadership Training

The preponderance of an Air Force officer's leadership training occurs at the Squadron Officer School. It is therefore appropriate to detail that course's curriculum as an explanation of their program.

The course is conducted four times annually with a class ranging in size from 550 to 650 lieutenants and captains. Each class is further subdivided into sections of twelve on the basis of a list of thirty variables (e.g. duty, command, age, sex, etc.) to insure a thoroughly diversified group. Each section is provided with a section commander who is a member of the faculty.

During the first two weeks the students receive limited instruction on leadership theories and take part in many group problem solving exercises (e.g. Project X). The section commander utilizes this assessment phase to profile each officer along a series of leadership dimensions. These

dimensions are; problem solving, organizing skills, interpersonal skills, forcefulness, willingness to lead, flexibility, motivation, and acceptance of responsibility.

At the begining of the third week the section commander, and an attached member of the staff who has been assisting the commander, feedback to the students their perceptions and recommendations for improvement. A program is designed with the officer to develop either the areas discussed as needing work during the feedback or areas identified by the officer himself/herself. Plans are being made to include self-assessment techniques for students to aid them in developing their programs.

Much of the remaining training is experientially based. The student continues to work within the group on structured exercises and in competitive sports, concentrating on the dimensions specified in the plan. For example, an individual who needs/wants improvement in organizing skills would be made the coach of the section baseball team for a week, responsible for organizing practices, making team assignments, etc.

The assessment of the program's effectiveness has been primarily limited to internal evaluations. Students complete questionnaires at course completion and six months and one year after graduation. Approximately 50 percent of the replies have been favorable with the most negative comments

concerning the relevancy of sports to the officer's assignment back at his/her duty station. The individual's superior also receives a questionnaire about the officer's performance after attendance as compared to their pre-attendance performance. In general, their comments are more positive than the students.

The concepts behind this program were based on the assessment center process developed by the Office of Strategic Services (OSS) in the 1940's to select agents and the American Telephone and Telegraph Company's Management Progress Study of the 1950's. Since that time many organizations have utilized this methodology to select or, as the Air Force has done, to develop its leaders and managers. A closer look at assessment centers is taken in a later chapter.

At the other two PME schools the subject of leadership is not addressed in as formal a manner as it is at SOS, nor is there a service-wide leadership training program at the unit level such as the Army's L&MDC.

D. UNITED STATES MARINE CORPS

1. Organization for Training

The Marine Corps operates the most centralized agency for leadership instruction of any service. The Leadership Instruction Department (LID) at Marine Corps Development and Education Command (MCDEC), Quantico, Virginia, is responsible for: (1) Conducting leadership training in the formal

schools; (2) Conducting special leadership training and briefings; (3) Developing, testing, and revising leadership courses and manuals, and; (4) Studying prevailing conditions, attitudes prejudices, and behavior affecting leadership training. [USMC Order 5390.2B, p. 4]

All formal schools (The Basic School, Amphibious Warfare School, Communication Officers School, and Command and Staff College) are located at Quantico. LID, as a single agency, provides a cadre of instructors who teach leadership at each level. Currently LID is the only agency in the Marine Corps which conducts research in the area of leadership.

Another major aspect of the Marine Corps leadership program is its unit leadership training (details of which are addressed in the third section). The Equal Opportunity Branch is responsible to the Director, Manpower, Plans, and Policy Division for the development, implementation, and monitoring of this program. Unit commanders are responsible for local implementation of the program to include preparation of an Annual Leadership Training Master Plan.

2. Personnel Management System

The influence of the Marine Corps on the proposed Army education and training system is felt primarily in the precommissioning accession source. Almost 50 percent of the Marine officers are commissioned through the Platoon Leaders Class (PLC) program which requires attendance at

two six-week summer camps (one after enrollment and one immediately prior to college graduation) or a ten-week camp if enrolled in the junior year of college. These camps are operated by the Officer Candidate School. Other sources of commissioning include the Naval Reserve Officer Training Corps, the Naval Academy, and Officer Candidate School.

Initial entry training for Marine officers is unlike any other service. All new officers attend The Basic School (TBS) with specialty designations being made as a result of performance during the course. Functional training follows The Basic School, if required, according to occupational specialty assigned. "For a significant number of Marines (including some who will be advanced to the field grade) this will be their only extended formal resident schooling" [Review of Education and Training for Officers, 1978, p. G-2].

At the intermediate level only about 30 percent of the eligible officers attend resident instruction. The Amphibious Warfare Course (AWC) is the principal intermediate level professional school in the Marine Corps. It emphasizes Marine air-ground task forces in amphibious operations to prepare captains for command or staff assignments in battalion and regimental size forces of the Fleet Marine Force. Other schools available include the Communications Officers School and a number of Army Officer Advanced Courses. The impact of the Army decision to phase out its intermediate level courses

and replace them with temporary duty schools is yet to be determined.

The Marine Corps Command and Staff College stresses intellectual processes, oral and written communication, and the analysis, synthesis, and evaluation of problems to prepare graduates for high-level assignments. For top level education the Marine Corps utilizes other services' senior colleges.

3. US Marine Corps Leadership Training

As promulgated in the Marine Corps Manual the objective of Marine Corps leadership training is to:

> Develop the leadership qualities of all Marines to enable them to assume progressively greater responsibilities to the Marine Corps and society. All Marines, officer and enlisted, will participate in leadership training designed to achieve this objective.
>
> [Marine Corps Order 5390.2B, 1979, p. 1]

The leadership training refered to is a composite of what other services refer to as equal opportunity, human relations, racial awareness, etc., as well as those topics which might be considered more traditional leadership subjects. Leadership is defined in the Marine Corps Manual [paragraph 5390] as "the sum of those qualities of intellect, human understanding, and moral character that enables a person to inspire and to control a group of people successfully." A key distinction in this definition vis-a-vis the other services, is the use of the word "control" as opposed to influence. The rational behind this is that "control"

implies a more authoritarian approach than does the term "influence" which is consistent with Marine Corps philosophy.

In The Basic School the orientation is towards providing the newly commissioned officer with an understanding of the concepts of Marine Corps leadership and to prepare him/her as a discussion group leader for unit level training. The foundation of the concepts phase lies in the teaching of the eleven principles of leadership with opportunities provided throughout the course to practice their application. These principles are listed in figure 12.

The unit leadership training is designed to provide the Marine with instruction/information on topics such as alcohol and drug abuse, sexism, racial equality, etc. The characteristics of this program are set forth in Appendix E. The reason for subsuming these topics under leadership is that it is ultimately the leader who must deal with issues of this nature. Each commander is responsible for determining the goals and objectives for his/her unit based on the situation and to design an Annual Leadership Master Training Plan to meet these needs.

In order to prepare the company commander for determining goals and objectives and in planning, organizing, conducting, and evaluating leadership training the next level of formal training, the Amphibious Warfare or Advanced Communications Officer courses, is oriented towards this objective in its leadership training.

At the next level of schooling, Command and Staff College, leadership subcourses are designed to provide officers with a "command perspective" of leadership training. The table of contents of the College's handout on leadership provides the following interpretation of this orientation in its listing of subcourses:

The Responsibility of Leadership
The Military Profession
Ethics and the Military Profession
Developing an Ethical Code
Moral Decision Making
Substance Abuse
Philosophy of Command

[USMC, Command and Staff College, 1979, p. i]

Currently all efforts at assessing the effectiveness of the resident instruction center on internal evaluations, e.g. student critiques of the material presented. No formal external evaluation has been conducted, nor is planned for the near future.

E. UNITED STATES COAST GUARD

1. Coast Guard Leadership and Management School

As the smallest of the uniformed services, the US Coast Guard offers a completely different perspective on leadership training. Unlike the systems studied thusfar, there is no formal career progression for the USCG officer. There are no mandatory schools and/or assignments for the individual who aspires to flag rank. The organization for training which so

significantly impacted on the leadership training in the other services does not play as major a role here.

In November 1975 the Coast Guard began development of a Leadership and Management School (CGLAMS). Instituted in 1977 the school now conducts three courses at both its Yorktown, Virginia and Petaluma, California training sites. (see Appendix F, CGLAMS Mission, Goals, and Objectives) In contrast to the other leadership schools, attendance at the two-week junior officer (O3 and below) and the senior petty officer courses, as well as the one-week senior officer course is voluntary. District headquarters receive quotas for each school and select the attendees from among those individuals whose applications have been received.

The purpose of the school is to develop the leader, to draw on his/her past experiences to increase their ability to analyze a situation and thereby select an appropriate style of leadership. In order to accomplish this the school requires that only those individuals who have demonstrated above average leadership competency be selected for attendance. The school is not designed to handle poor leaders sent for training by the commands. The underlying concepts of the resident courses are based on three basic principles:

1. Leadership is a relation amoung several variables.
2. Leadership is situational.
3. Leadership requires flexibility on the part of the leader.

[Marcott, 1978, p. 13]

The framework upon which the courses are built is an adaptation of Rensis Likert's concept of the relationship between three classes of variables: (1) Causal variables or stimuli such as regulations, policies, and leadership styles; (2) Intervening variables which act upon the individual or group, e.g. need orientation, motivation, experience, goal setting ability, personality, and a sense of responsibility, and; (3) End results, e.g. short and long term productivity and impact on human resources. The school contends that "the only thing we have control over, short of changing policy directives, is our leadership style [and that] if we can increase our knowledge of and understanding of the intervening variables, perhaps we have a better chance of selecting an effective leadership style" [Marcott, 1978, p. 14].

To develop this understanding the courses involve the students in the study of groups, individuals, and situational leadership. In studying the group the students "are exposed to the difference between 'content' and 'process' and are invited to note how failure to observe process in a work group can inhibit task completion...they are aided in recognizing group norms and their importance...the effect of cohesiveness within a group is discussed in depth, taking into account the impact that status has on group decisions" [Marcott, 1978, p. 14]. Of particular concern is the potential conflict between junior officers, petty officers, and the work

group. The leader is given skills and practice in addressing this issue.

Herzberg's motivation - hygiene theory, transactional analysis, and interpersonal communications (barriers, active and passive listening, non-verbal behavior, and feedback) are all covered in studying the individual. Here, as in all phases of the school, the principal teaching techniques are role playing, workshops, team teaching, etc. The lecture is seldom used as the course attempts to capitalize on the experiences of the participants.

Hersey and Blanchard's Situational Leadership model, as presented in the previous chapter, is used to draw together the knowledge of the individual and group in selecting a leadership style. "They learn to use their new found knowledge of the intervening variables to analyze their followers' maturity level. This knowledge gives them a better feel for what might be an appropriate or inappropriate 'relationship behavior' in a given circumstance" [Marcott, 1978, p. 17].

Also covered is a modified version of the critical path method of modeling the work flow. This is presented to aid the leader in planning, scheduling, and controlling projects.

In the two-week course this material is followed by a week of case studies drawn from actual Coast Guard experiences

geared to the individual's rank. The course concludes with a viewing of the film "12 O'Clock High." The movie is shown in segments with an analysis and group discussion of the intervening variables, leadership styles, and the possible consequence of the two at the end of each segment.

To standardize the principles of the courses within the Coast Guard, members of the school's staff have taught the leadership instructors at the Coast Guard Academy and the Officer Candidate School (the only two sources of commissioning). The only difference in the courses is in the orientation of the case studies.

The CGLAMS has been moving into other areas recently, most notably in the field of organizational development "after re-discovering that training alone, without the necessary change in the structure of the people subsystem, does not impact the organization"[Wehrenburg, 1980, Interview]. In the training area the school is researching the possible use of behavior modeling as a method of teaching. This approach consists of the following four major learning activities:

1. Modeling, in which trainees watch films of model persons behaving effectively in a problem situation.

2. Role Playing, when the trainees practice and rehearse the effective behaviors demonstrated by the models.

3. Social Reinforcement provided by trainer and trainees in the form of praise and constructive feedback.

4. Transfer of training is encouraged, to enable the classroom behavior to be effectively utilized on the job.

[Kraut, 1976, p. 325]

2. Evaluation

At Yorktown the Development Staff of the CGLAMS has been conducting an extensive evaluation of the leadership courses. A four phase approach, the in-house effort has attempted to identify: (1) Whether any cognitive learning has taken place; (2) Long and short term changes in attitude of the participants; (3) Changes in the behavior of the trained leader, and; (4) Changes in the performance of the leader and the organization.

Preliminary results indicate that with respect to the first three criteria the school has achieved some success. It was found that four months after training there was still some learning going on as the students were generalizing the concepts to new situations. [Wehrenberg, 1980, Interview] Participants showed significant gains in the other criteria when compared to a control group.

The attitudinal and behavioral criteria were measured with questionnaires administered to superiors, peers, and subordinates of the trained leader. Individual performance was measured with efficiency reports and special reports by the superior. These results however suffer from their being subjective opinions of one or two people at most. For

reasons to be discussed in the next chapter the organizational performance criterion has been the most difficult to measure. Frequent mission changes were cited as only one reason for this difficulty. Future phases of the evaluation process call for a detailed examination of this area. The longitudinal study continues as the one-year follow-up is about to be made.

The control group in the above study was (is) comprised of individuals who have applied to attend the school but for some reason were, or have as of yet, not been accepted. Between group comparisons of the control group and individuals who did not volunteer revealed no significant difference which would otherwise invalidate the selection of the control group in this manner.

It is apparant that the Coast Guard is far ahead of the other services in evaluating its leadership training. While the argument can be advanced that its small size permits this type of assessment, it is an inadequate justification for failing to follow suit.

F. SUMMARY

Based on the preceeding discussion of leadership theories and training within the military several observations can be made concerning the service programs. It was shown that the preponderance of current theoretical research recognizes, in one form or another, the situational variance in leadership.

In the military the most obvious variance in leadership roles is the rank of the individual.

Only two services, the Army and Navy, address this situational aspect in their leadership doctrine. This doctrine is reflected in a cradle-to-grave concept of instruction, i.e. individuals receive a modified version of the base line doctrine at each ascension point or formal school. The immediate posttraining assignment reinforces these skills. The Air Force, while stressing the Hersey and Blanchard theory at Squadron Officer School (SOS), fails to fully appreciate the complexity of situational leadership in that the subject is not specifically addressed in post-SOS schooling. The approach taken by the Marine Corps is even less cognizant of the power of viewing leadership situationally. Relying on the traits and principles which have been used for many years, the Corps' concern for tradition insures a safe, non-threatening doctrine which will be supported by its leaders. This philosophy is obviously the reason for subsumming all human relations training under the banner of leadership, a policy which may preclude changes from being made even though research supports such changes.

There is another situational variable which has yet to be addressed by any service, that is the variation found in different Military Occupational Specialties (MOS). Are the same skills, in the same proportions, identical for the

infantryman and the military policeman, the commanding officer of a destroyer and the commander of an aviation squadron, or even the fighter pilot and the bomber pilot? These distinctions are made primarily on the intuitive appeal of Hersey and Blanchard's theory that leadership style is dependent upon the maturity of the follower. Since individuals (enlisted personnel) are assigned jobs based on a number of criteria (e.g. scores on aptitude tests, level of civilian schooling, etc.) it can be assumed that given the same task the maturity of the subordinate will vary along at least one dimension used to select his/her specialty.

The Army, with its decentralized approach, is the closest to recognizing this distinction but has not progressed far enough in the program implementation phase to determine whether this distinction will be emphasized. Mixing its officers to insure a homogeneous group as the Air Force has done overlooks this aspect. Navy standardization policy throughout all schools of the same level minimizes the job variation in the mix of competencies. Varying the situation of a case study by warfare community does not address this issue when the emphasis on each dimension is identical.

This same decentralized approach of the Army's has created a situation which makes program development and implementation a very lengthy process. With few major distinctions in its program, the Navy has approached full implementation having

started two years after the Army on the identification of leadership competencies. While a longer development phase may allow for more input from various sources and hence a wider feeling of ownership, the ultimate determination of program effectiveness is based on an evaluation after implementation. With the proper type of assessment, modifications to the initial design are possible to improve the program. A program brought on line earlier will obviously reach more people and stand a greater chance of making a positive impact on the current problems. The Air Force and Marine Corps share this benefit of centralization with the Navy.

Another benefit the Air Force and Coast Guard have is the format of their schools. With individuals returning to their command after the course the curriculum developers are able to conduct the best evaluation of any military leadership program, with the Coast Guard exploiting this advantage to its full potential. The same approach is possible in the Army's Leadership and Management Development Course and in the Navy for the limited number of personnel who attend LMET courses on temporary duty from their command but neither service has seized this opportunity.

With the exception of the Coast Guard, all services are subject to criticism for failing to address the necessity of conducting comprehensive evaluations. Whether this oversight is a result of not recognizing its importance or, as in the

case of the Navy, not addressing the need in the initial planning the result is the same. Programs which, if called upon to justify their existence, would be hard pressed to produce conclusive evidence. Although the Army has included evaluation as a major objective in its Leader Development Plan, it has still been remis in not thoroughly studying the effects of L&MDC. As a consequence of this gap in the leadership programs, a comparison between services is limited to subjective observations.

Despite the many differences in the programs there are some similarities between the services. First, each service has recognized the need to approach leadership training with a multitude of instructional techniques, e.g. group discussion, role playing, group problem solving, as well as the traditional lecture. This signals a positive step in curriculum development in a non-technical area. The Coast Guard's efforts and experiences with behavior modeling should advance this position even farther.

Second, and most important, is the recognition of the benefit of feedback to the participant on his/her style of leadership. Making the most gain in this area is the Air Force with their two-week assessment phase. Unfortunately the specifics of this assessment methodology suffer from the same format previously ascribed to as being beneficial. Mixing personnel from various military occupational specialties

the situations relied upon to point out leadership behavior is not reflective of the individual's actual job, e.g. sports. One of the principle features in assessment centers is the ability to recreate as closely as possible those conditions the individual will find on the job, this is far from the situation at SOS and has been criticised by participants for just this reason.

In summary, it has been shown that there exists a wide variation in the education and training systems of the services. Operating the most decentralized system, only the Army has required attendance for all officers through the staff officer level (upon implementation of CAS^3). The Army's focus in its schooling has always been on the next assignment while the other services are more concerned with concepts and principles to prepare the officer for the remainder of his/her career. Figure 11 depicts the differences between the services' resident school programs.

Within these training systems the approach taken towards leadership training is just as diversified. Except for the Marine Corps and the Coast Guard the services have identified a set of leadership dimensions or competencies which contribute to effective performance. The Navy, Air Force, and Coast Guard have sought to increase individual effectiveness with organizational performance benefiting from a second order effect. The Army, on the other hand, has recently

obtained commitment on a base line doctrine centered around organizational leadership skills. Figure 12 presents the skills and competencies identified for the Army, Navy, and Air Force and the principles of leadership of the Marine Corps. Figure 13 contrasts the characteristics of each service's leadership training program.

In the next chapter the problems of evaluation noted in this summary are addressed in terms of assessment criteria.

YEARS OF SERVICE	US ARMY	WKS	US NAVY (SURFACE WARFARE)	WKS	US AIR FORCE (NON-RATED)	WKS	US MARINE CORPS	WKS
3	BASIC COURSE (100%)	19	SURFACE WARFARE BASIC (100%)	15	BASIC COURSE (100%)	15	BASIC SCHOOL (100%)	6
8	PRE-COMPANY COMMAND COURSE (100% CO.s)	5	DEPARTMENT HEAD COURSE (100%)	28	SQUADRON OFF. LEADERSHIP & MGMT COURSE (65%)	11	AMPHIBIOUS WARFARE COURSE ADV. COMM. OFF. (30%, ALL SCH.s)	39 42
12	COMBINED ARMS SERVICE STAFF SCHOOL (100%) COMMAND & GENERAL STAFF COLLEGE (40%)	7 40	NAVAL COMMAND & STAFF (12%) SURFACE WARFARE XO COURSE (60%)	40 6	AIR COMMAND & STAFF COLLEGE (20%)	40	MARINE CORPS COMMAND & STAFF COLLEGE (35%)	43
16	BATTALION CMD REFRESHER CRS	3	SURFACE WARFARE CO COURSE (50%)	6	SQUADRON CMD COURSE	1		
19	ARMY WAR COLLEGE (16%)	38	NAVAL WAR COLLEGE (11%)	38	AIR WAR COLLEGE (8%)	40	ARMY, NAVAL; OR AIR WAR COLLEGE (17%)	
22	BRIGADE CMD COURSE	3	SENIOR OFFICER MATERIAL & READINESS CRS	17	BASE/WING CMD MANAGEMENT COURSE	4		
	% BASED ON RETO IMPLEMENTATION PLAN		NAVY OFFICERS DO NOT ATTEND BOTH THE WAR & STAFF COLLEGE					
			% AS OF 1978					

FIGURE II PROGRESSION OF COURSES AND DURATION OF TRAINING FOR U.S. MILITARY SERVICES

SOURCE: A REVIEW OF EDUCATION & TRAINING FOR OFFICERS, Headquarters Department of the Army, 1978.

U.S. NAVY	U.S. ARMY	U.S. AIR FORCE	U.S. MARINE CORPS
•CONCERN FOR EFFICIENCY & EFFECTIVENESS			
SETS GOALS & PERFORMANCE STANDARDS	TECHNICAL	ACCEPTANCE OF RESPONSIBILITY	KNOW YOURSELF & SEEK IMPROVEMENT
TAKES INITIATIVE		WILLINGNESS TO LEAD	BE TECHNICALLY & TACTICALLY PROFICIENT
•SKILLFUL USE OF INFLUENCE			SEEK RESPONSIBILITY & TAKE RESPONSIBILITY FOR YOUR ACTIONS
INFLUENCES	COMMUNICATIONS	INTERPERSONAL SKILLS	MAKE SOUND & TIMELY DECISIONS
DEVELOPS SUBORDINATES	HUMAN RELATIONS	FORCEFULNESS	SET THE EXAMPLE
TEAM BUILDS	SUPERVISION		KNOW YOUR MARINES & LOOK OUT FOR THEIR WELFARE
SELF CONTROL			KEEP YOUR MARINES INFORMED
•MANAGEMENT CONTROL			DEVELOP A SENSE OF RESPONSIBILITY IN YOUR SUBORDINATE
PLANS & ORGANIZES	PLANNING	ORGANIZING SKILLS	TRAIN YOUR MARINES AS A TEAM
OPTIMIZES USE OF RESOURCES	MANAGEMENT SCIENCE		INSURE THAT THE TASK IS UNDERSTOOD, SUPERVISED, & ACCOMPLISHED
DELEGATES			EMPLOY YOUR UNIT IN ACCORDANCE WITH ITS CAPABILITIES
MONITORS RESULTS			
REWARDS			
DISCIPLINES			
•ADVISING & COUNSELING			
POSITIVE EXPECTATIONS	COUNSELING		
REALISTIC EXPECTATIONS			
UNDERSTANDS			
•CONCEPTUAL THINKING			
CONCEPTUALIZES	DECISION MAKING	PROBLEM SOLVING	
•CURRICULUM CLUSTER	ETHICS	FLEXIBILITY	
		MOTIVATION	

NOTE: THESE PRINCIPLES ARE NOT DIRECTLY COMPARABLE TO THOSE SKILLS OF THE USN, USA, & USAF

FIGURE 12. LEADERSHIP SKILLS OF THE MILITARY SERVICES

SERVICE / CHARACTERISTIC	US ARMY	US NAVY	US AIR FORCE	US MARINE CORPS	US COAST GUARD
PROGRAM TITLE	ORGANIZATIONAL LEADERSHIP	LEADERSHIP & MANAGEMENT EDUCATION & TRAINING	ASSESSMENT CENTER	PRINCIPLES & TRAITS OF LEADERSHIP	LEADERSHIP & MANAGEMENT
WHERE/WHEN PROGRAM IS TAUGHT	AT EACH ASCENSION LEVEL	AT EACH ASCENSION LEVEL	SQUADRON OFFICER SCHOOL	THE BASIC SCHOOL	VOLUNTARY ATTENDANCE AT JUNIOR OR SENIOR LEVEL
PROGRAM STATUS	TO BE IMPLEMENTED IN ACCORDANCE WITH LEADER DEVELOPMENT PLAN	TO BE FULLY IMPLEMENTED BY FY 85	FULLY IMPLEMENTED	FULLY IMPLEMENTED	FULLY IMPLEMENTED
PROGRAM CONTROL	DECENTRALIZED	CENTRALIZED	CENTRALIZED	CENTRALIZED	CENTRALIZED
EVALUATION CRITERIA		INTERNAL - PROCESS FEEDBACK	INTERNAL - PROCESS FEEDBACK EXTERNAL - SURVEY TO SUPERIOR	INTERNAL - PROCESS FEEDBACK	INTERNAL - PROCESS FEEDBACK LEARNING ATTITUDE EXTERNAL - BEHAVIORAL PERFORMANCE

FIGURE 13. CHARACTERISTICS OF THE LEADERSHIP TRAINING PROGRAMS IN THE MILITARY

IV. EVALUATION METHODOLOGY

A. INTRODUCTION

In designing a strategy to assess the Army's leadership training programs it is essential that the purpose of evaluation be clearly defined. Simply stated, the purpose is to provide feedback for decision making about a program. Concomitant with this definition is a series of questions which must be addressed in order to develop a comprehensive plan. Some of these questions include:

What information is required?

What sources of information are available?

Who is to make the decision?

Who is to conduct the evaluation?

What evaluation techniques are available?

When should the data be gathered?

It is the purpose of this chapter to answer these and related questions as they pertain to the US Army leadership training programs. To begin this process a distinction must be drawn between the two types of evaluation and a determination made as to the appropriateness of each.

An evaluation may be either summative or formative. Summative evaluations provide a macro-level assessment of the program, that is, whether the program's objectives were achieved or not. In this case the relevant decision would be

whether or not to continue the program. A summative evaluation is appropriate only after full program implementation has been reached. At this point the characteristics of the course will have had sufficient time to interact with environmental influences to determine if the goals were met.

Formative evaluation, on the other hand, takes a micro-level view of the program's components for the purpose of providing the decision maker with information on possible modifications in order to improve the program. A far more complex process than a summative assessment, a formative evaluation looks not only at outputs vis-a-vis inputs, it also considers the change process itself, in this case leadership training.

Formative evaluation begins with the program's inception, monitors its progress through implementation, and provides a resource for continuous feedback throughout the program's history. Changes in the environment (e.g. societal norms) are detected, their impact on the organization analyzed (e.g. greater concern for personal freedom), and what aspects of the process are being challenged (e.g. Human Relations).

Clearly, the most desirable type of evaluation is formative. Unfortunately, as the complexity of the methodology increases so does its cost. The following chapter deals with this critical issue, an issue which hampered evaluation plans in the other services. The complexity of the evaluation

also requires that a systematic approach be pursued to analyze the interrelationship of the components.

The components of the Army organizational leadership program include the following:

1. Initial State of the Organization

This element is the organizational environment from which the leaders come prior to receiving training. It is presently described by such quantitative variables as: Absent Without Leave (AWOL) rates, nonjudicial punishment rates, retention rates, percent of Military Occupational Specialty (MOS) qualified, etc. It also includes qualitative measures such as motivation, esprite, and bearing. Whether these indicies are appropriate for studying the effect of leadership training is discussed later.

2. Pre-training Leaders

The individuals selected for the training process.

3. Process

These are the properties of the training system which include its method of instruction, validity of the dimensions of leadership, applicability of the dimensions to the job, variation of the emphasis placed on each dimension, etc. In the "Black Box" analogy from systems analysis it is here that the results of a formative evaluation are fedback.

4. Posttraining Leaders

These are the leaders who have participated in the

formal training program; the output of the training process. A desired result of the program is to produce a positive change in the leaders' behavior when compared to their pre-training measurements.

5. Future State of the Organization

The final determination of a program's success is the impact the trained leader has on the organization. This organization may be the same as the one in the initial state, as would be the case in the Leadership and Management Development Course, or different from the one the leader came from as in the case of pipeline training (training enroute to a new duty station). Any change in the environment of the organization as a result of the influence of a "trained" leader will contribute to a redefinition of the initial state of the organization for the next iteration of the training cycle. In other words, the output for one cycle changes the input for the next.

The relationship between these components of the training system constitute the criteria necessary for a formative evaluation (figure 14). These criteria may take the form of feedback (such as that provided by either the training participants or an expert's opinion) or the measurement of a change in some criteria. This latter category includes; the change in knowledge about leadership or the learning which took place, the change in the leader's attitude toward

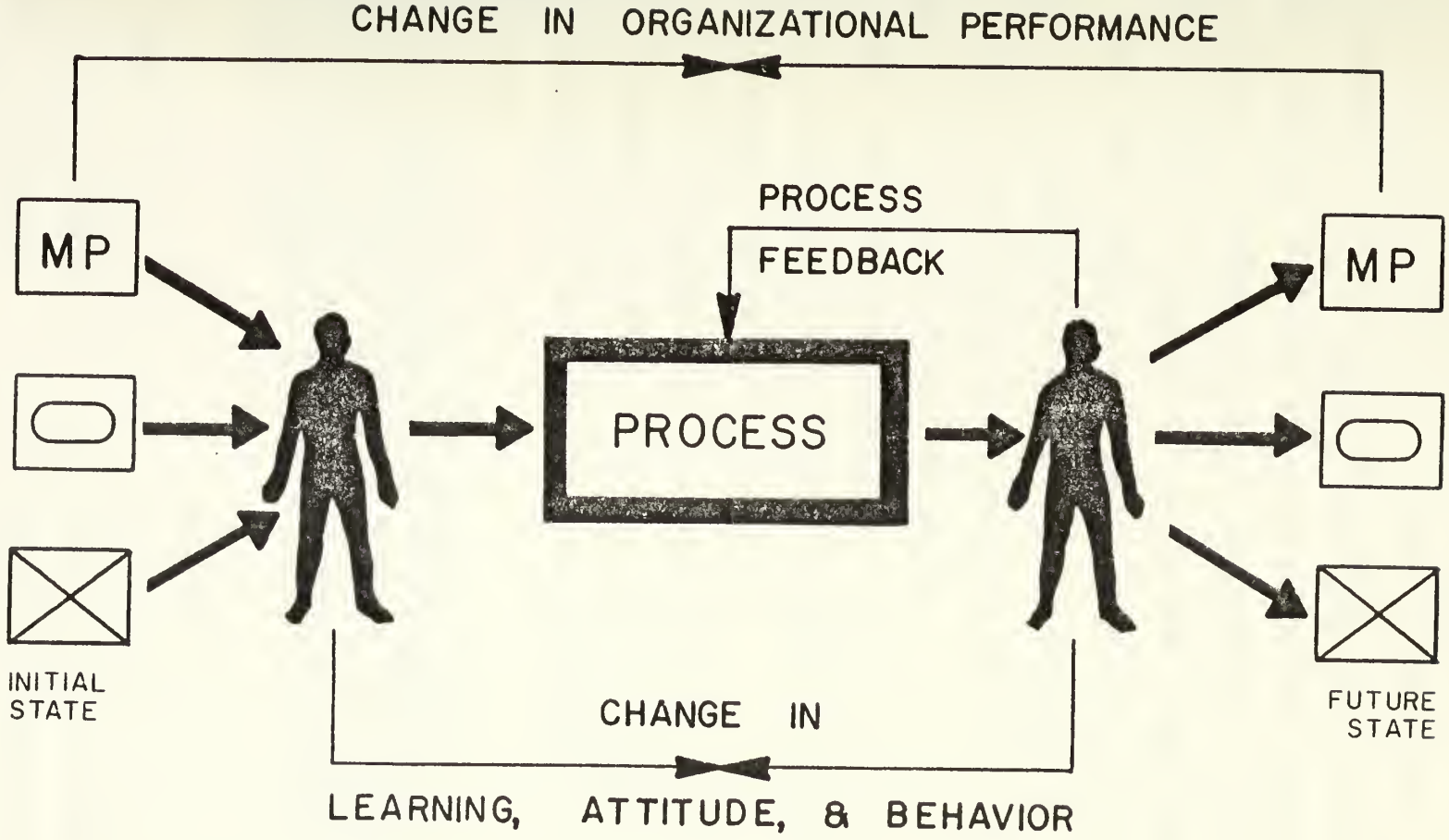


FIGURE 14. TRAINING EVALUATION SYSTEM

subordinates, peers, superiors, supervisors, mission, leadership styles, etc., third, a change in the leader's behavior with respect to the attitudinal change and increased knowledge (manifested in the utilization of new leadership skills), and finally, a change in the organization's productivity or effectiveness as a result of the leader's new behavior.

These five criteria and the elements of the system are depicted on figure 14 as: (1) Process Evaluation; (2) Learning; (3) Change in Attitude; (4) Change in Behavior, and; (5) Change in Organizational Performance.

This classification represents a modification and clarification of Kirkpatrick's [1959] typology of Reaction, Learning and Attitudes, Behavior, and Results.

In the discussion of evaluation programs within the military, reference was made to internal and external criteria. This frequently used classification was defined by H. O. Mann [1957] as:

> Internal criteria are those directly linked to the activities of the training program, such as attitude scales and the achievement tests designed to measure what the program is intended to teach. External criteria, are measures designed to assess actual changes in job behavior, such as ratings, economic indicators, grievance rates, or turnover within a manager's unit.
>
> [Campbell, et al., 1973, p. 274]

Based on this definition the first three criteria (Process Evaluation, Learning, and Attitude) are all internal, the latter two external. This distinction is important in that a comprehensive evaluation must include both internal and external

measures and a comparison of the two. Ideally, all five criteria should be utilized, but in reality the resources for collecting all of the appropriate data rarely exist. When faced with this constraint the next best alternative consists of a mixture of internal and external criteria obtained through any of a number of possible data collection techniques.

Several frequently used techniques are; questionnaire, paper and pencil tests, job sample or performance tests, interviews, simulations (to include assessment centers), visual observation (expert opinion), performance ratings, and participant reports. Throughout this chapter a matrix is developed which indicates which technique(s) is (are) appropriate for each criteria.

Bowers and Franklin's [1975] guidelines for acceptable data are applicable in determining this appropriateness. These include being: (1) Objective, replicable, free from rater bias; (2) Reliable, internally consistent, "rather than stable, as an alternative definition of reliable, since its change we're evaluating" [Bowers and Franklin, 1975, p. 158]; (3) Valid, techniques measure what they are supposed to measure; (4) Practical, obtainable without difficult, expensive, or time consuming procedures, and; (5) Useful, productive of "understandable results within the affectable lifespan of the program being evaluated" [Bowers and Franklin, 1975, p. 158].

One final word in general about criteria, the data

obtained by each must be anticipated and planned for in advance of the measurement. This includes: (1) the minimum acceptable criterion, and; (2) alternatives or options based on the results. The first point requires the delineation of standards which will indicate the necessity for change in the program. The two possible standards are, first, an absolute standard which fixes a threshold level below which program modification is required, and secondly, a comparative standard where the significance in the amount of change or difference between groups can be determined and must exceed chance probability.

> The advantage of the absolute standard is that the decision making process requires minimal analysis techniques (i.e. the threshold level is either met of not met). Its disadvantage is that the particular threshold level selected may be difficult to justify (why is 90 percent the minimum acceptable level?). In comparison, the control group used with the comparative standard is rarely arbitrary or abstract, but the analysis technique used to reach the decision requires inferential statistics.
>
> [Alden, 1978, p. 50]

The desirability of either standard is discussed, where appropriate, for the various techniques.

The second point refers to the need to establish contingency plans before the evaluation results are known. Whether an absolute or comparative standard is used, this foresight will aid in determining appropriate modifications to reach the intended goal. If the decision maker indicates that no action will be taken regardless of the data, then there is obviously no need for an evaluation, except perhaps for cosmetic reasons.

Although the Army's base line doctrine (organizational leadership) has not been fully integrated into the formal school system, this chapter approaches the program as though it has and that a greater degree of standardization than now exists will characterize the program in the future.

In the following discussion of each of the criteria there is a common characteristic; the need for clear and specific objectives.

B. PROCESS EVALUATION

Process evaluation is an assessment of what occurs in the classroom and is only tangentially concerned with whether any learning has taken place. It is an important criterion simply because there must be an atmosphere conducive to learning in order for the students to assimilate the information. The atmosphere can broadly be defined as: (1) the content of the course, and; (2) the manner of presentation. Appropriate sources for these two items are the participants themselves and expert opinion based on visual observation. In the absence of other criteria Andrews [1966] argues that the best indicator of a training program's effectiveness is the opinion of the participant. Both the participant and expert are currently being used by all of the services as their primary means of evaluation. In this section they are examined for advantages, disadvantages, and methods of application.

1. Process Feedback

There are two forms of feedback from training participants, the participant report (or survey) and the interview. Although the interview potentially can provide the most complete data in terms of specific comments and recommendations, its advantage is importantly dependent upon the skills of the interviewer. An experienced interviewer may be able to extract more useful information from a fewer number of participants than the survey. While this would tend to make interviewing a powerful evaluative technique there are problems inherent in its use. Principal among these problems is the presence of two sources of bias, the participant in his/her replies, and the interviewer in the interpretation of the replies or the manner in which the questions are posed. Again the trained interviewer may be able to reduce these biases but unfortunately this level of expertise is usually not found within the departments responsible for gathering such information at the service schools.

Other disadvantages are the time and dollar resources required to conduct interviews. These factors can easily overshadow the advantage of fewer respondents.

With respect to the Leadership and Management Development Course (L&MDC) conducted at the installation level, the survey technique is presently utilized. This despite the Organizational Effectiveness Staff Officers having received some training in interviewing.

Critical of the use of the survey as a means of gathering participant feedback, Blumenfeld and Crane [1973] comment that "one of the most popular and least meaningful criterion measures is participant questionnaires...this approach to evaluation tends to build 'trainer-ego' since it produces positive results almost without exception" [Blumenfeld and Crane, 1973, p. 43]. To test this assumption they conducted a study to document the extent to which perceptions of effectiveness of training were based upon quality evidence. Their conclusion: "asking managers (or trainees for that matter) whether or not training is effective is a meaningless, inappropriate, and ineffective way to proceed" [Blumenfeld and Crane, 1973, p. 51].

Despite this deficiency the written feedback remains the most widely used technique. The rationale behind this decision is frequently cited as the need for: (1) Data in a standardized format; (2) Unanimity; (3) Ease of administration; (4) Data which can be statistically manipulated; and, (5) Quality of information in terms of mass distribution of the survey. These considerations contribute to the reluctance to use interviewing in that it rarely meets these needs.

Kirkpatrick [1979] remains one of the strongest supporters of written participant reports for process evaluation. In discussing the advantages of this technique he stresses several points which would improve the quality of information received. These recommendations are applicable to

both the organizational leadership training at the service school and the Leadership and Management Development Course. First, the report should be distributed prior to the course completion. This alerts the participants to the kind of information which will be required of them at the end of the course. Passing the reports out afterwards may result in some lost information. In an extended course (over one week) these reports may be collected prior to completion to allow for necessary mid-course corrections. The emphasis in the report should be on the manner of presentation of the material. Depending on the goals of the training, e.g. prepare the officer for the next assignment, the participant may not be qualified to comment on the relevancy of the course material. Any remark along these lines may merely be speculation. The L&MDC, involving personnel who will return to the same duty assignment at the end of the course, could be asked in the first report about the perceived relevancy of the course.

An important advantage of the survey technique over interviews is the cost savings in subsequent (follow-up) participant reports. Several months after training the service schools should again query the participants, now graduates, as to their perception of the course's effectiveness. In this report the emphasis is placed on the relevancy of the material presented to their job. For example, what aspects of the training (leadership dimensions) were extraneous, which should be emphasized more, and what additions should be made

to the course. These follow-up reports will serve as primary input for course modifications based on military occupational specialty. After several iterations of the same training at all schools the training developers will be able to adapt the emphasis placed on the leadership dimensions so that the infantryman and the military policeman refered to earlier will no longer be receiving identical training.

The second recommendation by Kirkpatrick is that the surveys be designed to permit quantification of the responses as well as to provide for additional open-ended comments. The response categories (scales) should be coded with continuous variables (some multiple value variable in a range from high to low, e.g. 1 - 5) in order to permit statistical analysis.

The appropriate agency to conduct the initial and follow-up surveys is the agency responsible for conducting the training, e.g. the individual service schools for organizational leadership and the OESO for L&MDC training. Generalized data concerning the participants' reaction to the method of instruction, and later perception of skill relevancy, should be compiled for research purposes by a designated Army-wide organization. At the school level there should be a long term trend showing improvement in both content and presentation with between group comparisons of student reports (providing the reporting procedure and format remains constant).

Based on a criteria of complete data the interview would tend to be the technique of choice for gathering information. However, the serious resource constraints and possibility of two sources of bias makes the survey the most feasible technique for use by the service schools. This concession need not be made in evaluating the L&MDC. Follow-up interviews by trained OESO's can be given when participants return for an additional session as part of the curriculum. Each class is small enough to permit interviewing the majority of the attendees, and once the course is completed they are all on or near the same installation making a second follow-up by the OESO very easy and inexpensive.

2. Expert Opinion

People who are recognized to be subject matter experts (either through specialized training or extensive job experience) should be called upon to give their perceptions of the leadership training. Recall that the initial validation of the leadership dimensions were made by subject matter experts at the Infantry School conferences.

This technique, like participant feedback, can address either the course content (leadership) or the manner of presentation. While many senior service members would consider themselves qualified to comment on the former, the selection of a reviewer should be based on more than rank. It is recognized than many of the leadership trainers are amply qualified

to perform this task, but their involvement in the training process would result in a self-evaluation.

In light of the recent delegation of responsibility to the Organizational Effectiveness Center and School for the leadership dimensions, and the specialized training given to the OESO's in the L&MDC portion of their course, it is appropriate that the OESO at the service school be called upon to provide input on the process.

Where possible the reviewer should be capable of providing appropriate input (conclusions and recommendations) to the Army's leadership research agency (to be determined in accordance with the milestones of the Army's Leadership Action Plan) as well as to the trainers. In that the service schools receive student feedback from which they modify the course to fit the situational idiosyncrasies of their specialty, this 'outside' expert's role takes on added significance. Without this input the course may be modified beyond the point of base line doctrine.

The OESO's are provided expert assistance on course content from the Organizational Effectiveness Center and School in the form of changes to the manual and their own professional publication the OE Communique.

One of the principle concerns expressed at the Army Leadership Action Planning conference was the difficulty of structuring leadership training into the Instructional Systems Design (ISD) model. Instances in which subject matter

experts in training methodology might criticize the instruction for failing to meet ISD requirements (see Chapter 3) were cited as potential problem areas in future leadership training. While this difficulty remains to be resolved at TRADOC the leadership instructor must not overlook the potential benefits of feedback from experts on methods of instruction, curriculum development, etc. Prior coordination with the individual selected to evaluate (or inspect) will contribute significantly to these benefits.

Coordination with the post's Directorate of Training (or equivalent) may prove helpful for the OESO at an installation with no service school which can provide this asset.

The use of expert opinion by the decision maker on possible modifications in the program is critical. It is not a replacement for, nor is it substitutable by, the participant report. Both are important techniques within the process evaluation criterion. The following section discusses another important internal criterion, learning.

C. LEARNING

> Learning may be conceived of as a change, due to experience, in the students' ways of thinking, feeling, and acting. The effectiveness of the learning process may be thought of in terms of (1) the magnitude of the changes taking place in the individual student or (2) the proportion of the students who have changed significantly in one or more characteristics relevant to the learning process. Thus conceived, education may be regarded as a system of learning experiences which bring about certain desirable changes in students.
>
> [Bloom, 1963, p. 386]

At the center of the learning process are educational objectives which are relatively specific characteristics the student should possess after completing the program. The learning criterion seeks to determine the participants level of knowledge on certain cognitive skills, both before and after training relative to these objectives.

While the curriculum development methodology (figure 8) has attempted to specify all leadership competencies in terms of cognitive skills there remain only a few which are entirely demonstratable on the two learning measurement techniques. Through the use of paper and pencil or job performance tests the decision maker is provided feedback on whether the process (training) is actually teaching those skills specified in the objective.

Regardless of the technique used, there are a number of common characteristics. First, a learning test is appropriate only where there is a definite correct or incorrect response. For example, under the "Directing" subdimension of "Supervision" the skill "select appropriate leadership style" is not suitable for testing, while "prepare budget" and "write mission/ objective statement" are "Management Science" tasks which could be tested for compliance with established standards.

Second, the tests should be designed in accordance with accepted doctrine to insure clarity, reliability, validity, objectivity, etc. In constructing the tests a principle

objective is to insure a particular level of comprehension of the material. Therefore, it is appropriate to establish an absolute standard for this criteria. Failure to meet the standard on the end of course test would indicate either a failure of the training process (poor instruction), a discontinuity between the material presented and the objectives tested (not testing what was taught), or an unrealistically high performance criterion (e.g. 100 percent correct on the test needed to pass).

The third characteristic, the use of pre and posttraining tests, clarifies possible alternative explanations. With both tests the after training results can be compared to the initial test to determine if any change in the participants knowledge level can be attributed to the training process. A comparison of the mean scores of the tests which proved not to be statistically significant would indicate inadequacies in the training process (given realistic test standards and a failure to meet those standards).

The pretest may also reveal that the knowledge level prior to training in some skill areas is sufficiently high so as not to warrant any additional training in that area. As seen in the proposed Military Qualification Standards another use of the pretest would be to insure a common base of knowledge among the participants before advanced skill training is undertaken.

While the establishment of a control group (individuals not receiving the leadership training) would increase the meaningfulness of the statistical data the appropriateness of delaying or exempting personnel from the leadership training (a true experimental control group) is a matter for the policy makers to decide. If, however, a situation is created where the class is subdivided so that two or more subdivisions receive the same block of instruction but at different times, there is a possibility of conducting an institutional cycle "quasi-experiment." This design must be considered on a case by case basis to determine what other training the first control group is receiving and the amount of interchange between the two groups during training, both factors which could influence the test results for the group receiving the training second. The implications of experimental design are discussed in greater detail in the section on behavioral change.

Finally, the agency responsible for conducting the test should be the service schools for the organizational leadership and the OESO for L&MDC training. At the service school level the ISD subject matter expert should be consulted for guidance in test construction.

Besides the above characteristics, there are some points which distinguish the two techniques. In the job performance or job sample test the results of the training are measured by actual performance (ability) as opposed to strictly cognitive

knowledge as with the paper and pencil test. These tests are appropriate when a skill is being taught rather than facts or principles. For example, if the "Interpersonal Communications" skill "speak clearly" is selected for instruction it can easily be evaluated by having the participant give an oral presentation to the class.

Disadvantages of job performance evaluation are the amount of time it requires, usually having to be administered on an individual basis, and/or the need for skilled observers (other than the instructor). A numerical scoring system must be devised to enable statistical analysis of the tests and the observers trained in its use to insure validity and reliability.

Another form of test, the simulation, is typically more general in nature than the task specific job performance test and potentially more powerful in providing feedback to both the trainee and the decision maker. The assessment center approach, as discussed in the final chapter, is a variation of the simulation.

Job performance tests are not easily used to test the presence of the learning curve. While paper and pencil tests are more flexible in this regard, their result, when administered several months after training may not be a true reflection of the educational experience. Having been used primarily for evaluating the participants retention of knowledge and facts it can be expected to slope downward from a

highpoint immediately after training. The shape of this learning curve may be quite different than one obtained from a job performance test of the individual's skills. If the skills are utilized frequently on the job the curve may be expected to show a rise in the skill level since the post-training test.

Less frequent utilization of the skills may produce a "sleeper" experience in which a particular skill declines (or remains dormant) until some time when a situation arises requiring this particular skill. At that time the skill level rises to meet the challenge. This phenomenon is significant in the measurement of the behavioral criterion.

Relating this to the military experience, the Navy found that its leadership and management training programs, prior to implementation of LMET, concentrated on theories of leadership (principles and facts) which proved difficult to apply in the Fleet. As a consequence the rate of knowledge retention could be expected to sharply decline over time and the benefits soon lost. The LMET program is skill based and therefore should result in an increase in skill level after the participant returns to the Fleet, providing the opportunity for reinforcement presents itself. This example serves as an important guide to the Army's future program. With its intended emphasis on skills of organizational leadership, vice theory, the technique of choice for determining the effectiveness of the training program becomes the job

performance test.

A final comment on the learning criterion; testing, besides its use in rank ordering students and evaluating the training process, is a powerful tool in determining what is learned and how it is learned. It is an integral part of the educational process and must be considered as early as the development of the program's objectives.

The introductory remarks to this section refer to the change in the students' way of feeling besides the cognitive changes due to learning. This emotional, or affective, component of learning is measured in the attitudinal criterion.

D. ATTITUDE

The measurement of an individual's attitude as an indicator of the effectiveness of the training process is more than a solicitation of his or her feelings toward the program. This was reflected in the participant report. In the domain of leadership training the changing of attitudes about the appropriateness of certain leadership styles and a feeling about one's subordinates, peers, and superiors may be an objective in itself. The review of literature provided several examples of this goal. For example, in emphasizing that Theory Y and Theory X are attitudes towards people, McGregor held that a Theory Y predisposition would allow the leader a greater range of behaviors.

Where the objectives of a training program are expressed

in behavioral terms, it is important to recognize that the development of a "proper" attitude is an intervening step. Simonson [1979] stated "while attitudes are latent and not directly observable in themselves, they do act to organize, or to provide direction to, actions, and behaviors that are observable" [p. 35].

In measuring attitudes directly, as opposed to infering from behaviors, there is an obvious restriction to the participant himself/herself as a source of information. The techniques available to extract this information include the interview and the questionnaire. As with process evaluation, the former, when conducted by a skilled interviewer, represents the most complete method for gathering data as well as posing the greatest problem with respect to the constrained resources (people, time, and money). The questionnaire therefore is the most likely technique to be used.

Regardless of the technique used, the first step is to identify the construct to be measured. This should follow directly from those attitudes which were identified as being important during the curriculum development phase and stated as a course objective. For example, if there is concern about the leadership dimension "Counseling" and the ability of the training to impart this concern on the leader, then an appropriate construct might be "attitude toward subordinate's personal and performance problems."

When the constructs have been selected it may be possible to use an existing instrument rather than constructing a new one. For example, if there was a need to determine an individuals concern with human relations in the work situation and their concern for the task itself, then the Leadership Opinion Questionnaire (LOQ) may be used. The LOQ is a paper and pencil measure of leadership attitudes which yields scores on the two dimensions of leader behavior identified in the Ohio State Leadership studies, consideration and initiating structure (see Chapter II). It is completed by the leaders themselves for purposes of self-description. An advantage of using existing questionnaires, which may influence the selection of constructs, is the availability of norms and established measures of validity and reliability.

If the specific constructs to be studied are not part of an existing instrument, nor can the necessary items be extracted from several sources, it will be necessary to develop a new instrument. Such will be the case in the likely event that a study of the relationship between the eight organizational leadership dimensions and a change in the participants' attitude is desired, or that a positive attitude towards such dimensions as "Ethics," "Human Relations," "Communication," etc. are specified as training objectives. The development of an instrument in this situation is far more complex than asking the participant how he/she feels about a list of constructs. Issues surrounding the selection

of the measurement scale and the test's validity and reliability are key to constructing a new instrument. Stern [1963] raises four questions concerning the scale: (1) Are all items relevant to the same measureable continuum; (2) Are the items in fact ordered as steps along that continuum; (3) Is the relative distance between the steps constant, and; (4) Are the responses actually a function of the attitude the items were intended to sample, rather than of some irrelevant process.

When a test is produced locally, it is critical that validity and reliability be established through repetitive measurements and information gathered on the test itself. If an existing instrument is being used, or one has been made from several sources, the validity and reliability must be confirmed. Both are important methodological issues in assessment and require a clear understanding to fully appreciate their significance.

1. Validity.

Validity depends on a number of factors and is comprised of several catagories:

a. Construct Validity. The extent to which a measure represents the attitude construct it is supposed to measure.

> One can develop confidence in the value of any construct and in the construct validity of a set of measures only as the result of a series of experiments in which it is found that persons who score 'high' on a test behave differently from persons who score 'low' and that this difference is in accord with theoretical predictions.
>
> [Kelly, 1967, p. 48]

b. Predictive Validity. How well a measure will predict some future behavior.

c. Concurrent Validity. How the test correlates with another instrument which is held to be valid measuring the same constructs.

d. Consensual Validity. Expert agreement that the test measures what it purports to measure.

There have developed over the years several other forms of validity which all too often are mistakenly relied upon in evaluation research. They are defined here so that there is no misunderstanding their inappropriateness as sole sources of validity, especially in assessing a training program.

a. Face Validity. A test is believed to measure a given construct because it looks like it should.

b. Validity by Fiat. A test is proclaimed valid by its author based on his/her position or reputation.

c. Experienced Validity. A test is judged valid to the extent that it "provides the user with a subjective sense of the correctness of the inferences that he makes with it" [Kelly, 1967, p. 81].

d. Faith Validity. A belief by the user that the test yields accurate and correct information therefore it is appropriate to make conclusions about other people with it.

2. Reliability.

Reliability, or the ability of an instrument to produce consistent results can be determined by several methods.

> The "test-retest" method involves the re-administration of the instrument to the target group and correlating the results. The "split-half" method uses an arbitrary division of the instrument into two halves. Results from each half are correlated and reported as a reliability coefficient. "Alternate-form" reliability involves the correlation of the results of the same attitude construct. Each subject takes each form and the resulting correlation is reported as a reliability estimate.
>
> [Simonson, 1979, p. 37]

The preceeding discussion has called attention to the obvious sophistication required to develop a measure of attitude test. For this reason the agency which should be given responsibility for this phase of the attitude criterion is the Army Research Institute (ARI). Once ARI has designed and tested the instrument the administration phase is the responsibility of the service school (branch schools for the basic officer course, Command and General Staff College, or the Army War College).

As with the learning criterion, the schools will be required to administer a pre- and posttraining test of attitude. The question of how long before and after the training is difficult to specify. Since attendance would necessitate reassignment the change in duty or location might influence the participants' overall attitude (motivation) and therefore their response. For example, an officer leaving a

particularly distasteful assignment would probably experience a more positive attitude which would be reflected on the instrument. If the instrument were mailed to him prior to departure the indicator might be more negative. An individual leaving a good assignment might react in an opposite manner. With respect to the posttraining measurement the attitude an individual leaves the school with may be changed or reinforced as a consequence of the situation. Even though an individuals attitude toward the assignment or the service in general is not the same as attitude toward any or all of the dimensions of leadership its potential influence can not be denied.

Dressel and Mayhew [1954], in a study of the gains made by college students in attitudes, found a recurring pattern of large gains made by students with low pretest scores and vice versa. While their explanation of this pattern in terms of ceiling effect, regression toward the mean, differential motivation, and focus-of-instruction effect as well as the statistical procedures available to deal with the phenomena in general go beyond the scope of this thesis, it does serve to point out the complexity of the issue of when to test.

In a previous chapter the relevance of differential motivation in the military setting was discussed. Clement and Zierdt [1973] addressed this issue in the Leadership Development Model by noting that soldiers generally enter the

service with a positive attitude. This illustrates a point of caution with regards to measuring change in attitude. If it has been hypothesized that attitude toward some construct will change in a positive direction (i.e. viewed more favorably) as a result of training, and the posttest fails to confirm any significant change, has the training process failed? Not necessarily. In this situation an absolute standard vice the comparative standard must be consulted. If the pretest mean was sufficiently high there could be little room for change (the ceiling effect) hence the lack of noticeable change. At this point the decision maker is confronted with the problem of whether or not to continue training directed at improving attitude toward that construct when the pretest indicates the goal has already been met.

Despite these problems the most advantageous pretest time is immediately upon arrival at the school. The posttest should be administered prior to departure from the school (to measure attitudinal change which can be more directly attributable to the training process and whether this change was in the desired direction) as well as some time after departure. This longitudinal study will indicate the residual or lasting effect of the attitude change once the individual has been exposed to the new environment and has had an opportunity to assimilate its influence. Changes in this third administration of the test may indicate to the decision

maker that the original training objectives with respect to desired attitudinal change may need modification. This decision, however, can only be made when the effects of the indivdual's attitude are known. These effects are manifested in behavior and performance and are reviewed in the following sections.

E. BEHAVIOR

What is of interest in this criterion is observed behavior in the workplace as opposed to classroom behavior. As the first of two external criteria, the best source of data is the participant's superiors, peers, and subordinates. Since the issue of having one's subordinates report on their superior (the training program participant) has been a delicate one in the military it must be made absolutely clear to all involved that the objective of the measurement is to report, in very neutral terms, what has been observed, and is not a judgement or evaluation of the leader's effectiveness by his/her followers. There are many difficult questions to answer in developing this evaluation methodology, a principal one being the design of the experiment.

1. Organizational Leadership Training

a. Experimental Design

The purpose of specifying an experimental design is to "make the results less ambiguous and more amenable to causal interpretation"[Campbell, et al., 1973, p. 275]. The

authoritative work in this field is Donald T. Campbell and Julian C. Stanley's Experimental and Quasi-Experimental Designs for Research on Teaching [1963]. It is from this publication that much of the design principles for the evaluation model recommended for the Army Organizational Leadership and Leadership and Management Development Course (L&MDC) are derived.

At the high end of the ambiguity continuum (least meaningful results) is the one-group posttraining measurement only design. Unfortunately, the ease of measurement and minimal cost associated with this design has made it very popular. Among its many flaws is its failure to provide a base line measurement from which change can be determined. Any change that is suspected may be the result of any form of influence, before, during, or after training.

A step toward reducing ambiguity is taken with the introduction of a pretraining measurement of the participants. While a base line is established, it is still difficult to determine the cause of any change noted. Obviously neither of these one-group designs is suitable for formative evaluations. Of the twelve possible sources of invalidity Campbell and Stanley [1963] indicate the first design fails to control for any of the invalidities and the second only for selection and mortality. In 1972 Campbell added three more sources of invalidity, the fifteen are as

follows:

1. History. The specific events occuring between the before and after measurement in addition to the experimental variable [the training program].

2. Maturation. The ongoing processes within the individual, such as growing older or gaining more job experience, which are a function of the passage of time and which may change the individual in some fashion.

3. Testing. The effect of the pretest on posttest performance.

4. Instrumentation. The degree to which the criterion instruments may measure different attributes of the individual at two points in time. An example would be using different raters to rate trainee behavior before and after training.

5. Instability. Unreliability of measures, fluctuations in sampling persons or components, autonomous instability of repeated or "equivalent" measures.

6. Statistical Regression. Changes in criterion scores resulting from selecting extreme groups on the pretest.

7. Differential Selection. Using different methods to select individuals for the experimental and control groups.

8. Experimental Mortality. The differential loss of respondents from the various groups.

9. Interaction of Differential Selection and Maturation. The compounding of the disparity between groups as a result of differential selection, with the interval changes occurring within the individuals over the course of the training period. That is, the experimental and control group may have been different to start with, and these differences become even greater because of interval changes occurring during the experimental period.

10. Interaction of Pretest with the Experimental Variable. The possibility that something in the training experience reacts with the pretest in such a way that the pretest has a greater effect on the trained group than on an untrained group.

11. Interaction of Differential Selection with the Experimental Variable. A different effect for the training experience as it is applied to one group versus another. Because of differential selection the groups are not comparable at the begining on the criterion variables, and they may also react differently to the training.

12. Reactive Effects of the Research Situation. The phenomenon that exists when the efforts required by the research design so change the participant's expectations and reactions to the training that results cannot be generalized to future applications of the training.

13. Multiple Treatment Interference. The differential residual effects of previous training experiences.

14. Irrelevant Responsiveness of Measures. All measures are complex, and all include irrelevant components that may produce apparent effects.

15. Irrelevant Replicability of Treatments. Treatments are complex and replications of them may fail to include those components actually responsible for the effects.

[Campbell, et al., 1970, p. 277
& Campbell, D.T., 1972, p. 191]

One method of eliminating or controling for some of these sources of invalidity requires the introduction of a second group, the control group. This group, given the pre- and posttraining tests, is not exposed to the training, but is exposed to the other environmental factors experienced by the group of training participants. When individuals are randomly assigned to either group (equal probability of assignment) this represents a true experimental design; the "Pretest - Posttest Control Group Design." While MacKinney [1957] argues that this last procedure is the only one

worth the effort [Campbell, et al., 1970, p. 276], there is still room for error.

As discussed in the section on Fiedler's experiments the Hawthorne effect (heightening of motivation as a result of being singled out for training) on the training group may account for more of the change recorded than the actual training. To control for this effect a second control group receiving some training, but not designed to teach the same thing, may be used. For example, a group of new officers in the experimental group receives the organizational leadership instruction, the first control group is given the same tests, the second control group is given Fiedler's Leader Match as well as the two tests. If there is a difference between the organizational leadership group and the first control group, but not with the second control group, then the results of the training could most likely be attributed to the Hawthorne effect.

Solomon [1949] added a third control group to control for the possible change as a result of the measurement process itself. This additional group received a posttest only while the second control group was given the training and the posttest only.

The detailing of the above four designs has served to call attention to several measures which should be taken in designing a method to study the effectiveness of a leadership training program. Principal among these measures

is the use of a control group. At this point in the evaluation plan a very critical decision must be made; How is the control group to be selected?

There are two ways in which a control group can be designated. The first alternative is the assignment to either the control group or the training group as the individual "walks through the door." This selection is based on some system which makes the probability of going to either group equally likely. At the completion of the first iteration of training one group has received the training which is being studied while the other group(s) have not. To illustrate the dilema this alternative poses, the Navy point of view will be reviewed. It is the Navy's contention that this alternative necessarily denies the benefits of LMET attendance to those selected for the control group. For this reason the Navy will not use this alternative. The Army policy makers must decide whether the benefits derived from a scientifically sound experimental design with this first alternative outweighs the inconvenience of delaying leadership training for one or two hundred leaders during the course of the study. If the benefits are deemed insufficient then the Army must settle for the second alternative.

The second alternative method of selecting a control group, although it is not as reliable, is to identify a naturally occurring control group within the organization.

These groups, due to some function of the personnel management system or the training system and not the action of the researcher, did not, or will not, receive the training program being studied. They will, however, be in the same environment as the training group and available for testing and comparison.

It is the phenomenon of naturally occurring control groups which forms another means of measuring the effectiveness of the Army's future organizational leadership program. Recognizing that at some point in time the service schools will be initiating this program it is proposed that the personnel attending those service schools prior to the anticipated start date be designated as the control subjects. The training which they receive in leadership and management skills will act as a placebo to minimize the Hawthorne effect.

There is a requirement that before the new program begins a behavioral measurement test be designed and administered (to whom will be discussed later) prior to the control group receiving its training. After this group graduates the new program is implemented with the incoming group having had the pretest already administered. When this experimental group graduates it will enter the units and work with peers (e.g. platoon leaders) who comprise the control group. After a period of assimilation, the subordinates, peers, and superiors

of the new platoon leader will be questioned concerning the training participant's behavior. This same survey will have been administered at the same point in time from date of arrival at the unit for the control group.

The objective is to determine is there is any significant difference between the reported observations of the control group member's behavior and that behavior reportedly displayed by the member of the trained group. In this case the groups are the training class of officers at the service school, not the platoons or companies they go to.

A disadvantage of this design is the close monitoring of subjects, control and training groups, required of the research agency. Additionally, this type of experiment can only last as long as there are peers already in the units who have not had the new training. In the case of the platoon leaders the field should be saturated with trained lieutenants within two years from the date the service school implemented the training. At this point there would cease to be a control group and this experiment would terminate. The measurement of behaviors could continue but based on one of the less desirable forms of validity defined in the previous section. This problem does not surface with a true experimental control group, the experiment could continue indefinitely.

Having outlined the basic structure of the

designs necessitated by the type of control group selected, it is now appropriate to detail specifics such as when the pretest and posttest should be administered and what techniques are available. Once these issues are addressed the nature of the experimental design is again discussed in terms of the recommended course of action.

b. Measurement Timing.

The issue which complicated the development of an experimental design was the fact that the training program under consideration is pipeline training, that is, individuals do not return to the same unit after training. Consequently the individuals observing the behavior prior to and after training are not the same.

Faced with this problem the only alternative is a report by individuals from the unit the participants are coming from for the pretraining measurement and a posttraining report by people at the unit the trainee was assigned to. This resolution is further complicated at the initial entry training point; the newly commissioned lieutenants are not coming from any unit.

There are two possible solutions to this: (1) Peer measurement before commissioning at the ROTC unit, Military Academy, or Officer Candidate School, or; (2) Peer measurement after commissioning at the officer's basic school. The first alternative is selected as the most appropriate for

several reasons. First, the peers at the pre-commissioning source have had a longer period of time in which to observe each other. As noted previously the sleeper effect may require a specific situation to trigger a behavior and the longer the people know each other the more likely it is they would have observed a greater range of behavior. At the basic course there is less of an opportunity to make these observations prior to the block of instruction on leadership.

Secondly, a new lieutenant may supress what would constitute his/her normal behavior after having been placed in a foriegn environment, this of course depending on the individual and/or the commissioning source.

Finally, the future officer is less anxious about completing peer ratings than the newly commissioned one. Peer evaluations are a normal requirement at West Point, ROTC and OCS and they are less likely to suffer from any adverse effects, e.g. distrust, skepticism, etc.

The use of peer evaluations in leadership studies is favorably supported in research. Gordon and Medland [1965] found that peer ratings showed higher stability over time and over different situations than did the superior's.

> Hollander (1954, 1956, 1957, 1965) and Wherry and Fryer (1949) have demonstrated conclusively that peer ratings of leadership potential obtained during training in military settings have higher reliabilities and are more highly related to later ratings of leadership competence than other measures or estimates...obtained during training.
>
> [Campbell et al., 1970, p. 113]

Barrett [1966] commented that peer ratings are potentially the most accurate judgements of employee job behavior. The rationale for these findings is that "a person's behavior in the presence of his peers constitutes a more valid portrayal of his 'real self' than his behavior in the presence of his superiors" [Campbell et al., 1970, p. 114].

Kelly's [1967, p. 64] comments support the position that after the experiment's termination (no more control group in the naturally occurring alternative) the peer ratings are still desirable, "for many personality variables, the average of several peer ratings constitute the best currently available measures, and, as such, are frequently used as criterion measures against which the scores of newly developed assessment devices are validated." This also is significant for the development of assessment centers in the Army.

Unfortunately the availability of peer ratings is very limited for the posttraining measurement. These data must be gathered at some point sufficiently long after the leader's arrival to permit assimilation of the environment and reaction with the learned skills. It is gathered, as previously mentioned, from peer, subordinate, and superior. Obtaining information from several levels of the chain of command on an individual would, when averaged out, tend to eliminate the common biases of observers.

These biases are: (1) The leniency error, a

tendency to rate people favorably; (2) Closure error, using knowledge about one behavior to report on one upon which the observer has no information, this is both favorably and unfavorably; (3) Similarity error, allowing common characteristics between observer and observed to favorably influence the rating, and; (4) Contrast error, observers who consider themselves good at some skills tend to underrate others on that same skill. The degree to which these biases are present in the measurement is a function of the technique used to gather the information and the training of the rater.

Before considering the techniques it is now possible to return to the experimental design and address the third major point as illustrated by Solomon's four group design, pretest sensitization. When a group has been exposed to a set of relevant factors on a pretest it may learn what behaviors to look for on the part of its leader. Solomon's solution called for a third control group to receive only the posttest and the second group to receive only the training and posttest, any difference between groups after the posttest could be attributed to this pretest sensitization. The experimental design which uses two different groups of raters obviates the need for such a control group design. With the pre- and posttraining reports coming from different groups there is no learning afforded the posttraining respondents.

c. Measurement Techniques.

Similar in nature to the attitudinal criterion, the best method for obtaining complete data (in depth and detailed) is the interview. As a practical matter, however, this is the least feasible method. With respondents scattered thoughout the nation's campuses (ROTC), the Military Academy, and Army installations world-wide, the cost of travel alone would be prohibitive. This problem is only compounded by the presence (or possible presence) of both rater and interviewer biases.

Consequently the method of choice is the survey or questionnaire. While this technique is subject to the respondent's biases discussed, Kelly [1967] reports that these biases are normally distributed throughout the respondent sample and therefore extreme scores tend to cancel each other out. Another factor which reduces these errors is the validity and reliability of the instrument. One possible alternative is the use of existing instruments which have already been tested for validity and reliability.

The Leadership Opinion Questionnaire (LOQ) discussed as a measure of an individual's attitude on the dimensions of consideration and initiating structure, has a companion instrument for behavior. The Leadership Behavior Description Questionnaire (LBDQ) is used by superiors, peers, and subordinates to describe the leader's behavior along these same two lines. Other tests, such as Hersey and Blanchard's

LEAD - Others, have not been sufficiently validated to allow consideration be given to their use.

Another area which deserves exploration is the use of an existing organizational survey within the Army such as the General Organizational Questionnaire (GOQ). The GOQ is an eighty-four item survey which calls for a measure of agreement to behavioral and attitudinal statements, e.g. "My supervisor emphasizes mission accomplishment," and "My supervisor lets me know when I have done my job well." The general catagories of questions concern the unit, supervisor, work group, co-workers, and personal satisfaction. With only eighteen questions relating to leader behavior this survey can not be considered appropriate for providing the necessary feedback relative to the new training program. Modifying this survey is not a viable alternative since it would conflict with the norms and data base being developed.

A second survey, Command Climate, has twenty domains and includes more of the dimensions of organizational leadership but is yet only an experimental effort by the Army Research Institute (ARI). The use of this instrument, with only minor changes, remains a possible alternative. ARI's involvement in this field raises an important question; Who will be responsible for administering this phase of the evaluation process?

d. Research Agency.

Up to this point in the evaluation plan, the service schools have been given responsibility, with the assistance of ARI, for conducting the internal evaluation. There are two principal reasons why this is no longer possible for the external evaluations. First, the task of developing a survey, selection and testing of the officers prior to training, and monitoring their posttraining assignments is too extensive for the service school. It is, however, an undertaking which ARI is fully capable of handling. The Army Research Institue meets each criterion discussed by Eoyang [1977] which must be possessed by the capable research agency; competence, objectivity, resources, motivation, and credibility.

The second reason is more politically oriented. If the service school were to begin gathering data on officers it would be viewed more as an attempt to evaluate the officer rather than the program. Cooperation would be difficult, at best, to obtain.

ARI's primary responsibility would be to gather, analyze, and feedback the data to the appropriate service school. The decision maker (at the school) will then compare the results of the stated objectives and make program modifications as necessary.

e. Design Issues.

In order to outline the elements of the evaluation strategy for the organizational leadership training program the notations used by Campbell and Stanley and introduced in Chapter II are used. The treatment group is that class (e.g. Officer Basic Course) which receives the new training, the control group is the class graduating from the school prior to implementation of the program (the second alternative for selecting the control group). The evaluation plan is depicted as:

	Time ——————>		
Treatment Group:	O_1	X	O_2
Control Group :	O_1		O_2

Again, X represents the training received and the O's indicate observation reports received from the respondents.

Observations at time one (O_1) are the peer ratings gathered at the precommissioning source, while the observations at time two (O_2) are from the units (after training). A statistical analysis would first compare the two initial observations to determine if any pretraining differences exist. In their discussion of the Nonequivalent Control Group Design (the one most like this) Campbell and Stanley [1963, p. 217] state, "The groups constitute naturally assembled collectives such as classrooms, as similar as availability permits but yet not so similar that one can dispense with the pretest...

the more similar the experimental and the control groups are in their recruitment, and the more this similarity is confirmed by the scores on the pretest, the more effective this control becomes."

The important test comes in determining whether the change from O_1 to O_2 is significantly larger (and in the desired direction) for the treatment group than for the control group. If it is, and the likelihood that this is due to chance is small enough (a relative judgement by the decision maker) then it can be assumed (within a certain probability) that the new training program was responsible for the change.

The experimental design does contain some deficiencies. Foremost is the possible historical source of invalidity. Since the time of observations of the two groups do not coincide there may be different environmental effects on the two groups. To control for this possibility ARI must coordinate the survey administration through the local OESO. A brief inquiry should determine if the results of the questionnaire are likely to be contaminated by this historical invalidity. In any case, since the individuals within each group are assigned to separate locations after training there is little likelihood that a single event (short of war) will affect all of one group. Calculation of mean scores for all respondents will help moderate the affect of the difference in posttest experiences.

A second source of invalidity is the interpretation of questions asked. With different respondents (college peers versus unit personnel) on the pre- and posttraining surveys there may be two different interpretations of the questions. Control for this effect is best achieved by ensuring clear, concise wording on the survey so that there is little possibility of misunderstanding what behavior is being asked about. A pilot trial of the test instrument can help clear up ambiguities and possible misinterpretations of the questions asked. Here again, calculation of the mean scores will reduce any gross misunderstandings not detected in the pilot trial.

Until such time as a standardized program is in use at each precommissioning source the possibility of the invalidity of multiple treatment interference exists. At the officer basic course level this presents a not so easily solved problem. The majority of Military Academy graduates attend their branch (occupational specialty) school within three months after commissioning. By winter of that school year the courses are comprised mostly of ROTC with some OCS graduates. This most likely will result in a pretraining difference in leadership experience between groups. As was discussed in the introduction, one constraint on the evaluation process is the requirement to interface with the systems already in place. This aspect of the personnel

management system represents one such constraint which the decision maker must consider in analyzing the data.

The discussion thus far has centered on the second alternative method of selecting a control group, the naturally occurring group. This is for two reasons: (1) It is more difficult to design an experiment around this type of group, and; (2) The implications of not training people in leadership along with their peers might erroneously lead a decision maker to conclude that it is the method of choice. In the last few pages the resulting complexity of the design necessary to support this decision has clearly demonstrated its disadvantages.

If there is doubt about the capability of this design to reduce the ambiguity of the results, and delaying training for some leaders is acceptable, then the first alternative for selecting a control group is appropriate. This group, selected at random from the class scheduled to receive the new program, would not receive any leadership training at all; a true control group. It should be noted that precedence does exist within some service schools for exemption from training.

Should such a procedure be used to select the control group the design would be as shown:

Treatment Group:	R	O_1	X	O_2
Control Group :	R	O_1		O_2

This design is weak in only two respects: (1) Interaction of the pretest with the experimental variable, and; (2) The Hawthorne effect. If the two groups above can each be subdivided then the Solomon four group design discussed previously will address these weaknesses. Subdividing only the control group and administering a placebo would indicate the presence of the Hawthorne effect. Use of a program such as Fiedler's Leader Match as the placebo would minimize the impact on existing resources. The additional information concerning pretest sensitization provided by the Solomon design would not be necessary with the difference in the pre- and posttraining respondents. The simplicity of these designs as well as their ability to account for most sources of invalidity obviously makes the true control group the preferred alternative.

The detail with which the organizational leadership program's evaluation strategy was covered will aid in the development of a plan for measuring the behavioral changes attributable to the Leadership and Management Development Course.

2. Leadership and Management Development Course

The procedure necessary to assess behavioral change as a result of the L&MDC is considerably easier to present than it was for organizational leadership. Recall that for this program the participants attend a one-week course and

return to their unit. The trainers (OESO's) have (or can easily acquire) the skills necessary to carry out the statistical techniques required by the experimental design.

a. Experimental Design.

Consistant with the requirements established under the organizational leadership experimental design the major factors which must be accounted for are; development of a base line measurement, control for the Hawthorne effect, and control for as many of the sources of invalidity as possible.

Since the participants are known some time in advance of the class date, the opportunity for several measurements before and after the training exists. The benefit of multiple measures with a control group is possible since no two leaders from the same work group may attend the same class. This design is shown as:

Treatment Group: O_1 O_2 O_3 X O_4 O_5 O_6

Control Group : O_1 O_2 O_3 O_4 O_5 O_6

Observations are conducted at six different times throughout the course of the experiment.

There are two comparisons available in this design. First, the within group observations before and after the leader's training, and secondly, the posttraining behavior of the trained leader in comparison to an untrained leader.

When reviewed for possible sources of invalidity

this design is able to control for such factors as testing, selection, and maturation by noting any significant changes in the pretraining observations. Plotting the measurements taken at each observation can contribute substantially to understanding what effect the training may have had. Patterns which indicate an unbroken trend throughout all reports will give less credence to even a statistically significant change between the observations taken at times three and four. For a detailed discussion of this measurement technique see D.T. Campbell's "Reforms as Experiments."

Campbell and Stanley [1963] note the lack of control which this design has for the interaction of testing and training. Obviously the respondent will be learning more about behavior and what to watch for the more he/she is asked about it prior to the training of their leader, peer, or subordinate. Also noted is the lack of control over the interaction of selection and training due to the lack of random assignment. While modifications to this design can be made to improve control in these areas they would also tend to introduce new sources of invalidity as the complexity increases.

b. Measurement Timing.

Timing for this design is critical. With the need to conduct several observations before training the lead time becomes considerably longer than people may be

accustomed to. The interspacing of the observations is also very important. If the time is too short people will consider the measurement a test of their memory and attempt to replicate their previous report. Too long a time increases the possibility of the maturation effect. While Campbell and Stanley say that the observational series should hold known cycles constant (e.g. paydays, weekly inspections, unit work cycles, etc.), observations which are recorded to coincide with one of these cycles may suffer from situational peculiarities. For example, monthly observations on payday may elicit responses more favorable to the leader than at some other time. Regardless of the time interval chosen it should be constant throughout the experiment, varying time may vary the respondents to an extent that instrumentation error is introduced. Weighing the above factors, a monthly observational cycle would be the most appropriate.

c. Measurement Techniques.

At this level of leadership training the previously described benefits of both survey and interview data gathering are attainable. Beginning the series of observations with a survey the researcher can interview respondents the following month to clarify inconsistencies, verify information, etc. The interview must provide quantifiable data as well as qualitative in order to make statistical comparisons of the observations. The same issues which were raised for the organizational

leadership program are applicable to L&MDC, e.g. the use of existing instruments and respondent and interviewer biases.

d. Research Agency.

The principal beneficiaries of a formative evaluation of L&MDC are the OESO's who conduct the training and the Organizational Effectiveness Center and School which develops the curriculum. The training which these individuals receive (or can receive) qualifies them to carry out the steps included in the behavioral criterion. The efforts by other agencies involved in evaluation, such as ARI, must be made available to the OESO's to aid them in carrying out this phase of the assessment.

3. Campbell, Dunnette, Lawler, and Weick [1970] caution about the over reliance evaluators place on experimental design and the notion of statistical significance. They argue that "demonstrating that a difference between the before and after measures is statistically significant is only a minimal step. The crucial consideration is whether or not the training changes managerial behavior enough to make a difference to the organization" [p. 283]. This notion of practical significance as opposed to theoretical significance is discussed in the final criterion, organizational performance.

F. ORGANIZATIONAL PERFORMANCE

Ascribing changes in organizational performance to leadership

or management training is perhaps the most controversial of the evaluation criteria. Kirkpatrick [1978, p. 8] states "in training areas like leadership and communication there is no way that tangible benefits can be directly related to the program." In those studies which have used performance results Campbell et al., criticize their methodology by implying that behavioral measures are better indicators of training effectiveness:

> Behaviorally based measures can account for far more job complexity and can be related more directly to what the manager actually does than the global "organizational" measures that have been used in so many training research studies done thus far.
>
> [Campbell, et al., 1970, p. 481]

Despite this pessimism there are techniques which can contribute to the understanding of the relationship between training and results and provide the decision maker with information necessary to modify the curriculum. Two techniques will be reviewed and their interdependence examined, the use of performance ratings and the application of cost-effectiveness analysis.

1. Performance Ratings

The objective of this technique is to identify a set of indicators of unit performance which have a high degree of correlation with leader behavior. Once identified, comparisons between trained leader groups (either program) and untrained leader (or old training program) groups along those indicators

will tend to show the relative effectiveness of the training program.

For many years, and in many studies, people have relied on the traditional indicators of unit effectiveness. Motowidlo and Borman [1978] typify the reliance on these measures with their use of the following scales to study morale vis-a-vis unit effectiveness; narcotics and drug abuse, total serious incidents, absent without leave rates, non-judicial punishment rates, congressional inquiries, sick call rates, reenlistments, and company inspections.

Peter Vaill, in answering the question:

> When a group of men using some collection of technologies is performing in relation to some predefined goals or standards, in a way that may be described as "excellent" or "outstanding" or "high performing," what events may be observed in such systems?
>
> [Vaill, 1978, p. 109]

has hypothesized 47 indicators of organizational performance. Based on this work, Lieutenant Colonel William W. Witt [1979] developed a list of 40 descriptors of the High Performing System (HPS) which could be used by military commanders to measure and improve unit performance. Examples of these nontraditional descriptors are:

> There will always be discrepancies between "what the book says" and what the HPS actually does. Circumvention of the rules tends to be overt and nonapologetic.
>
> Soldiers in a HPS exhibit reflex behavior to the degree that they later cannot account for how or why they acted in a particular way.
>
> [Witt, 1979]

Regardless of whether the observer uses the traditional indicators or the HPS descriptors, the concept of using unit performance to distinguish between trained and untrained leader groups is considerably more complex than transfering existing data or checking off HPS behavioral characteristics. The primary difficulty in that these measures are dependent on a great number of factors, leadership being only one. In order for any of them to be indicative of the leader's behavior the leader must be able to exert a significant degree of influence over their outcome.

For example, motor pool A takes two days to complete repairs to a vehicle, motor pool B requires only one-half of a day to successfully accomplish the same task. Does the performance of A indicate that the supervisor is lacking in ability and needs training in the organizational leadership dimensions of "Supervision," "Planning," and "Decision Making?" Not necessarily. The difference may be due to the leader, or it may be that the mechanics did not have the requisite skills, tools, or parts to do the job. Parallel examples can be drawn for those indicies used by Motowidlo and Borman.

In statistics this problem is one of identifying the percent of variance in the performance measure which can be explained by leadership. While methods of determining this variance exist (e.g. canonical discriminate functions), their explanation goes beyond the scope of this thesis. Suffice it

to say that, if research indicates that only a small proportion of the difference between units on a particular measurement (e.g. AWOL rate) can be attributed to the leader's behavior, then that indicator in not an appropriate criteria for evaluating the effectiveness of a particular training program.

Even though this procedure may seem thorough it may not yield the specificity required by the decision maker to modify the leadership training program. The need to target a certain dimension of organizational leadership, vice only the discovery that a difference between units exists, further complicates the effort.

Once, however, the basic research has been accomplished and the best indicators of unit performance have been identified (best in that they show a high degree of leader influence) the evaluation of training may begin.

a. Experimental Design.

Similar to those designs previously discussed, there is a need to establish a base line measurement, a control group, and controls for the various sources of invalidity. There is also a need to redefine the treatment. Previously the treatment (X) was the training, now, since the unit effectiveness is the criteria, the treatment is the interaction of the trained leader and the unit. In this situation the appropriate base line measurement at time one (O_1) must be taken prior to the new leader's arrival in the case of

organizational leadership training at the service school, or prior to attendance at L&MDC. The second measurement is taken after the leader has time to assimilate the new environment and/or exercise his/her influence. A control group will be measured during this same time period. This design is depicted as:

Treatment Group:	O_1	X	O_2
Control Group :	O_1		O_2

If other identical units exist then this basic design may be expanded in accordance with the principles outlined under the behavioral criterion.

The important measurements in this section include those between group measurements at time one (O_1) to determine if any initial difference exists, at time two (O_2) to test the effect of training, and within groups to measure the extent and direction of any change.

Of the possible sources of invalidity this design is similar to that used for the behavioral criterion measurement of organizational leadership since both observations are taken at the same time. The possible interaction of testing and the treatment can be minimized if observers do not feedback the results of the first observations to the leaders.

b. Measurement Timing.

This factor depends to a great extent on what indicators were found as adequate measures of effectiveness.

If certain measures require a specific situation (e.g. field training) then obviously observations at time one and two must wait for the unit to be placed in that environment. Restrictions such as this point out the need to develop a comprehensive list of indicators. It is envisioned that modifications may be made to the basic design if the units do not perform the same tasks at the same time (e.g. platoon level training in which the units go to the field at different times). In this situation the researcher must evaluate the possibility that other sources of invalidity have been introduced.

c. Research Agency.

Given the complexity of the tasks outlined it is obvious that the only agency with the resources available to conduct the basic research is the Army Research Institute (ARI). Once the initial research is completed the Organizational Effectiveness Staff Officer is the appropriate staff agency to conduct the field research phase. The information gathered at this level is channeled through Training and Doctrine Command to the service schools.

With the degree to which leadership influences the criteria determined, it is possible to use this information in other areas. One such area is the study of the cost-effectiveness of the training program.

2. Cost-Effectiveness Analysis

It is appropriate that cost-effectiveness is the final evaluative technique, for only after the results of each of the other criteria are weighed can this measure be considered. While some authors suggest that if training can not be shown to contribute to the economic goals of the organization it should not be conducted [Odiorne, 1970], others feel "it is probably not possible to demonstrate the worth of training in cost accounting terms" [Campbell, et al., 1970, p. 272]. In the military such arguments are purely academic. Every program should be shown to be cost-effective.

The objective of this criterion is to compare the costs and benefits of the new program to those of the old (service school training) or to any other proposed alternative. A task made more difficult by the identification of costs and the assignment of dollar amounts to benefits received, it is, none the less a feasible task. There are two possible approaches to evaluating alternative programs, cost-benefit analysis and cost-effectiveness analysis. Levin defines the distinction as:

> A crucial assumption for performing benefit-cost analysis of alternatives is that the benefits or outcomes can be valued by their market prices or those of similar alternatives. Yet, the objectives of many, if not most social programs often have no market counterpart...In such situations the effectiveness of a strategy is expressed in terms of its actual physical or psychological outcome rather than its monetary value. That is, the monetary measures of resource costs are related to the

> effectiveness of a program in producing a particular impact. When the effectiveness of programs in achieving a particular goal (rather than their monetary values) is linked to costs, the approach is considered to be cost-effectiveness rather than cost-benefit analysis.
>
> [Levin, 1975, p. 92]

The Army, recognizing the need to rate the effectiveness of training programs, has developed a model to structure this need. Cost and Training Effectiveness Analysis (CETA) is the model designed to assist the decision maker. Developed by the US Army Training and Doctrine Command Systems Analysis Activity (USA TRASANA), CETA is formally defined as:

> A methodology which involves documented investigation of the comparative effectiveness and costs of alternative training systems for attaining defined performance objectives.
>
> [Neal, 1978, p. 15]

The approach outlined in the model enables programs to be ranked according to their effectiveness relative to their costs. It can not directly be used to ascertain whether a particular program is worth it in terms of the dollar benefits exceeding costs. The reason for this is that costs are expressed in monetary terms while benefits under this model are expressed in terms of effectiveness in reaching a particular objective.

The CETA seven phase model is comprised of:

a. Performance Objective Specification.

This initial step identifies and defines the

performance objectives of the training system. This phase is in accord with the evaluation plan's initial step of establishing program objectives for each criterion in either absolute or comparative standards.

b. Study Conceptualization and Planning.

This step addresses specific questions to be answered by the model in contributing to the overall program objectives. Essential Elements of Analysis (EEA) are derived and the various alternatives (present training and organizational leadership training) are compared in detail. Responsibility for the remaining phases of the study are identifed.

c. Training Effectiveness Analysis (TEA).

This third phase identifies Measures of Training Effectiveness (MOTE) for comparing alternatives. In this plan the MOTE are derived from the discriminate analysis results obtained for the performance rating criteria. For resource related EEA, Measures of Training Resource Requirements (MTRR) are also identified. The gathering of data proceeds along the previously discussed lines and any special methodology needed for the study (computers, statistics, etc.) are identified. In the final steps of this phase the information is analyzed to determine if the MOTE and MTRR have been met.

d. Resource Analysis.

For this phase those costs attributable to each program are calculated. Thomas E. Mirrabel [1978] presents a comprehensive model which has been used by the US Civil Service Commission to identify training costs. With only minor modifications this systematic approach is applicable to this phase of CETA.

e. Cost and Training Effectiveness Analysis.

This phase integrates the results of analysis conducted in phase three and four. Possible comparisons include total cost for obtaining a given level of effectiveness and the average cost per unit of effectiveness. The former is appropriate when the criteria reviewed indicates approximately equal level of effectiveness, i.e. organizational leadership has not produced any significant change in either attitude, behavior, or unit performance. In this case the program with the lowest total cost should be retained.

The latter comparison requires the combination of the criteria according to some formula. This formula can weigh the criteria in terms of importance to the overall objective. For example, all results (for both treatment and control groups) are assigned points relative to some scale, these points are then multiplied by a criterion weighting factor and summed for a total measure of program effectiveness. The criterion multiples would range from the highest

for unit performance to a lower rating for process evaluation (opposite the order presented in this chapter).

Average cost per unit of effectiveness is obtained by dividing the total cost by the total points of measure of effectiveness. The method "has the desirable quality of permitting cost-effectiveness comparisons among divergent programs with very different characteristics as long as the total cost of programs are available and the outcomes of the programs are measured in the same effectiveness units [criteria]" [Levin, 1975, p. 108].

f. CETA Reporting.

Phase six involves documenting the CETA results for the decision maker.

g. CETA Updating.

As new alternatives or major changes to existing programs are introduced this procedure can be replicated to maintain current cost-effectiveness measures. [figure 15]

It is obvious that cost-effectiveness analysis is a feasible method of evaluating the possible alternative leadership training programs, but is this what is needed? Given the difficulty in quantifying the benefits of leadership training it is a necessary first step.

> To the degree that the effects can also be translated later into monetary values, a cost-benefit framework can be applied at a second stage. Thus, the use of the cost-effectiveness approach does permit one to do a cost-benefit analysis as well, whenever the physical or psychological outcomes can be converted into monetary measures.
>
> [Levin, 1975, p. 93]

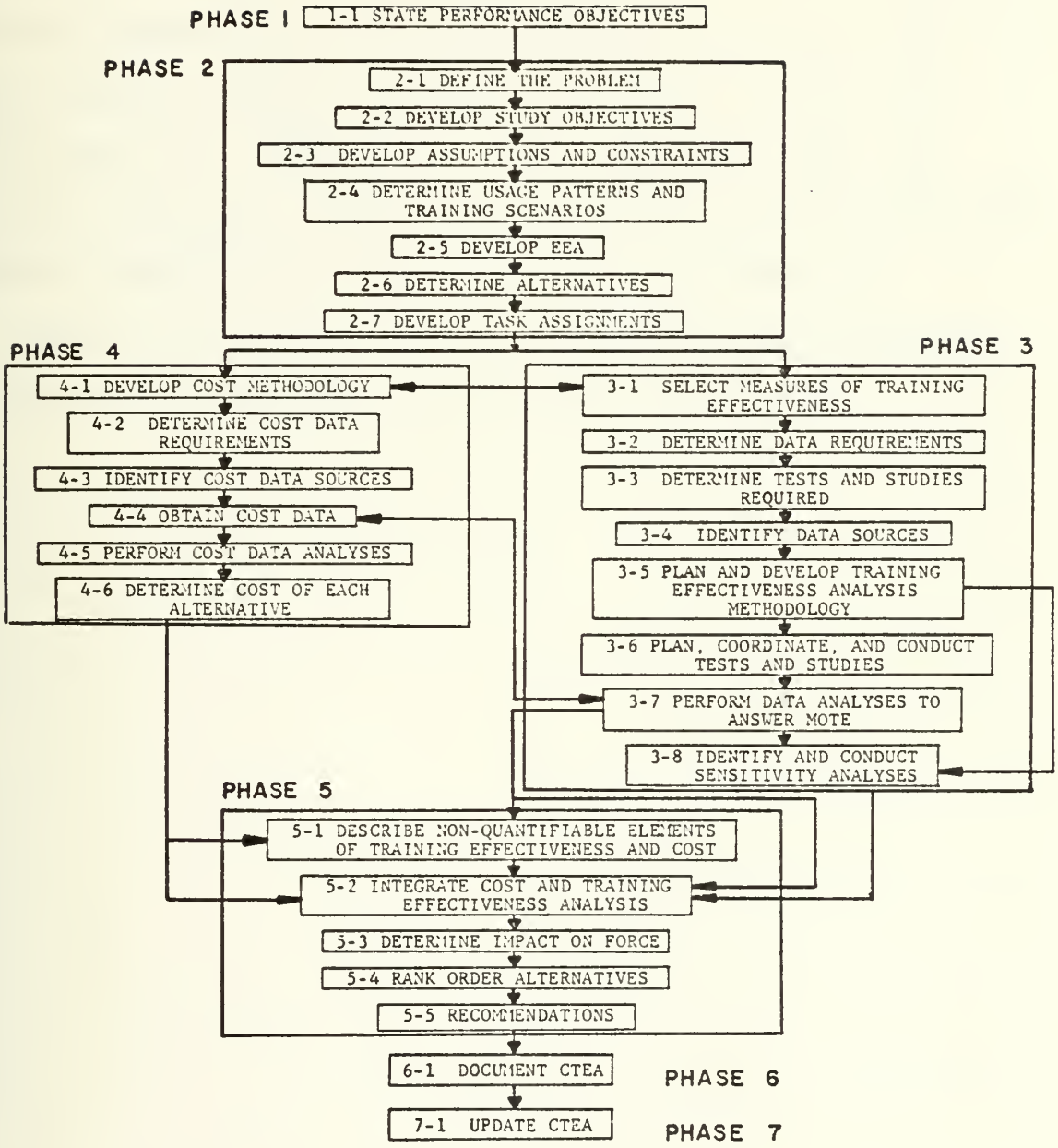


FIGURE 15. COST & TRAINING EFFECTIVENESS ANALYSIS MODEL

SOURCE: "COST & TRAINING EFFECTIVENESS ANALYSIS" EDUCATIONAL TECHNOLOGY, Gilbert L. Neal, March 1978, p. 18

G. SUMMARY

The purpose of this chapter has been to develop a framework for evaluating the effectiveness of the Army's two leadership training programs. Towards this end five criteria were identified, defined, and their interface with the programs examined. These five criteria can be arranged along several characteristic scales as shown in figure 16.

In the next chapter the details of these criteria are extracted and organized into an action plan format.

CRITERIA / CHARACTERISTIC	PROCESS FEEDBACK — LEARNING — ATTITUDE — BEHAVIOR — ORGANIZATIONAL PERFORMANCE
VALUE OF INFORMATION	LOWEST - - - - - - - - - - - HIGHEST
FREQUENCY OF USE	FREQUENT - - - - - - - - - INFREQUENT
DIFFICULTY OF ASSESSMENT	EASY- - - - - - - - - - - - DIFFICULT
EXPENSE	LOW - - - - - - - - - - - - - - - -HIGH
TYPE OF DATA	SUBJECTIVE - - - - - - - - -OBJECTIVE

FIGURE 16. CHARACTERISTICS OF EVALUATION CRITERIA

V. LEADERSHIP TRAINING EVALUATION ACTION PLAN

A. INTRODUCTION

Having detailed the concepts of the evaluation strategy in the previous chapter it remains to structure those ideas into an action plan format. The purpose of this blueprint is to: (1) Identify specific objectives for each criterion; (2) List the action steps necessary to reach those objectives; (3) Outline responsibilities, and; (4) Align those action steps with other ongoing initiatives, specifically the Leader Development Plan and the Review of Education and Training for Officers Implementation Plan. It is from these two plans that this format is derived.

Two separate plans are detailed, the organizational leadership training evaluation plan and the Leadership and Management Development Course evaluation plan. For both, the criteria for selecting a specific technique, apart from those values listed in the introduction, were:

1. Practicality of Data Collection.

In cases where the prohibiting cost or time required to gather the information reduced the likelihood of using a specific technique, the method is not considered appropriate.

2. Meaningfulness of Data.

Methods which offer the best information in terms of freedom from respondent bias and greatest contribution to

the reduction of ambiguity are selected as the method of choice. The proposed steps are valid regardless of the manner in which the control group is selected.

Proponency for specific actions is assigned within the plan at the major command or Army agency level. Further assignment is not practical without an exhaustive study of the subordinate element's missions. The only exception to this policy is the direct tasking of the Army service schools where the action is clearly to be implemented at their level.

B. ORGANIZATIONAL LEADERSHIP TRAINING

1. Process Evaluation

Objective: To solicit feedback from the trainees and subject matter experts on the relevancy of course content and the adequacy of presentation. The steps to achieve this objective are:

a.	Identify goals of the program with respect to information of students and subject matter experts towards training.	TRADOC
b.	Identify characteristics of the program and the trainers e.g. methods of instruction.	TRADOC
c.	Identify and train interviewers. Structure questions concerning student reaction to training after presentation of material.	TRADOC/ Service Schools
d.	Design student feedback form. Provide for quantitative and qualitative data.	TRADOC

e.	Coordinate ISD methodology for leadership training. Modify ISD where necessary.	TRADOC
f.	Designate subject matter expert for both leadership content and instructional technology.	Service Schools
g.	Decision maker may make changes in the course of instruction or in trainers based on feedback from steps c through e above.	Service Schools
h.	Schools provide generalized information to TRADOC for service-wide modifications.	Service Schools

2. Learning

Objective: To determine the change in knowledge as a result of training. The steps are:

a.	Identify skills to be taught at the schools and specify required task or knowledge (facts and principles). Establish comparative standard required to indicate that learning has taken place.	TRADOC/ Service Schools
b.	Design a paper and pencil instrument for testing of facts and principles taught. Specify criteria for passing.	TRADOC
c.	Design job performance test for demonstratable types of tasks. Specify criteria for passing.	TRADOC
d.	Validate instruments.	TRADOC
e.	Test student's knowledge or skill prior to training.	Service Schools
f.	Administer posttraining test to students.	Service Schools
g.	Compare pre- and posttraining scores to determine extent and direction of change.	Service Schools

h.	Based on criteria set at step a and the results of step g, decision maker modifies course as necessary.	Service Schools
i.	Service school provides generalized feedback to TRADOC for service-wide modifications.	Service Schools

3. Attitude

Objective: To determine if the attitude of the training participants has changed as a result of training and whether this change is significantly different, and in the desired direction, from that change experienced by participants in the pre-organizational leadership training program (or control group). The steps are:

a.	Identify constructs (attitudes) which are desired in the leader as a result of the training. Designate a comparative standard which will indicate that a change has taken place. Indicate the required difference between programs which will demonstrate the superiority of one program over the other (inter & intra group comparative standards).	TRADOC/ ARI
b.	Identify and train interviewers. Structure attitude questions for both qualitative and quantitative data.	ARI/ Service Schools
c.	Design attitudinal questionnaire to be administered to participants.	ARI
d.	Interview participants prior to start of classes in accordance with format developed in step b. Distribute questionnaires to the participants at this time.	Service Schools

e.	Mail questionnaires to participants six to twelve months after graduation.	Service Schools
f.	Compare results of pretraining interviews and questionnaire responses (e.g. mean score per construct) to results of post-training questionnaires. Calculate the difference between means and their statistical significance.	Service Schools
g.	Compare intra-group results to other groups (control versus treatment groups). Based on criteria in step a, determine if the attitude change as a result of the new program is in the direction and to the extent desired.	Service Schools
h.	The decision maker makes appropriate modifications to the program based on information gathered in g above.	Service Schools
i.	Service schools forward recommendation to TRADOC.	Service Schools
j.	TRADOC evaluates recommendations and modifies the program service wide or authorizes the school to make necessary changes.	TRADOC

4. Behavior

Objective: To determine the extent of behavioral change as perceived by superiors, peers, and subordinates and ascertain whether this change was a result of the training program. The steps within this objective are:

a.	Identify behaviors desired in leader as a result of training. Establish a comparative standard which will indicate that one of the programs is superior to the others.	TRADOC

b.	Develop questionnaire to measure the extent to which the participant displays the behaviors identified in step a.	ARI
c.	Validate questionnaire. Conduct pilot test.	ARI
d.	Solicit responses from peers prior to graduation based upon stratified random sample from ROTC, Military Academy, and Officer Candidate Schools. Stratification should be based on the branch assignments in order to compare leadership skills by occupational duty.	ARI
e.	Monitor assignment of personnel selected for study through service school training to their next duty station.	ARI
f.	Administer survey to training participant's superiors, peers, and subordinates. This should be conducted six to twelve months after arrival at the new duty station.	ARI
g.	Compare results of pretraining surveys with posttraining surveys. Calculate difference between mean scores for each leadership dimension measured and their statistical significance.	ARI
h.	Compare results of the group which received organizational leadership to the group which didn't. Calculate difference between groups on both pre- and post-training surveys.	ARI
i.	Determine if the difference between programs is statistically significant and in the desired direction. Specify by leadership dimension.	ARI

j.	Report each service school's results to TRADOC.	ARI
k.	Determine which (if any) leadership dimensions need to be modified.	TRADOC/ Service Schools
l.	Implement course modifications.	Service Schools

5. Organizational Performance

Objective: To determine if the leadership training program is reflected in changes in the operational performance of the units to which the newly trained leaders are assigned. The steps in this criterion are:

a.	Identify indicators of organizational performance which may be attributable to the behavior of its leader. Identify Measures of Training Effectiveness, Essential Elements of Analysis, Measures of Training Resource Requirements, and the standard for program success in this criterion.	TRADOC
b.	Conduct a study to analyze the indicators selected in step a (e.g. discriminate analysis). Determine what percent of the variance between units on those indicators can be attributable to the factor leadership. This task must be accomplished for each ascension level.	ARI
c.	To insure valid measures design a rating form for use by OESO's utilizing the results of step b.	ARI
d.	Prior to arrival of the newly trained leader record the organizational performance of the control and treatment groups.	OESO

e.	Record performance measures of both groups six to twelve months after new leader arrival (prior to control group leader departure).	OESO
f.	Compare within and between group measures to determine if there is a difference between the groups and whether it was in the desired direction.	ARI
g.	Review the results of the study to determine if performance difference criteria is met and/ or what modifications may be necessary to the programs.	TRADOC/ Service Schools
h.	Determine leadership training costs for all programs.	Service Schools
i.	Compute average cost per unit of effectiveness.	Service Schools
j.	Determine degree to which effectiveness indicators can be translated into monetary terms.	ARI/TRADOC
k.	If feasible, compute cost-benefit ratio of new and old programs.	ARI/TRADOC
l.	Determine if minimum acceptable ratio has been achieved and/or actions necessary to improve.	TRADOC/ Service Schools

C. LEADERSHIP AND MANAGEMENT DEVELOPMENT COURSE

Since this program is conducted at the installation level the first step the OESO must take is to secure permission from the superior unit commander to establish a control (comparison) group within his/her command. As can be seen below, many of the steps are identical to those taken in the evaluation of the organizational leadership training program. For each

leadership training evaluation criterion the objective remains the same.

1. Process Evaluation

   Same as Organizational Leadership

2. Learning

   Same as Organizational Leadership

3. Attitude

   a. Same as Organizational Leadership

   b. Same as Organizational Leadership

c.	Interview participants and members of the control group three to six months prior to the start of the course.	OESO
d.	Interview participants and control group three to six months after course completion.	OESO
e.	Compare results of pre- and post-training attitudes for both interviews. Calculate difference within treatment group and between treatment and control group.	OESO
f.	Based on the minimum acceptable standards, determine if the attitudinal change is in the direction and to the extent required to support the program.	OESO
g.	Determine if results of step f warrant modification of the course. If so, forward recommendations to OECS.	OESO
h.	Evaluate recommendations and modify program as necessary.	Organizational Effectiveness Center & School

4. Behavior

a.	Same as Organizational Leadership	
b.	Same as Organizational Leadership	
c.	Develop strategy to interview superiors, peers, and subordinates along measures identified in step a.	OEC&S
d.	Same as Organizational Leadership	
e.	Select random sample of respondents for both control and treatment group. Begining three to six months prior to the course, conduct a series of three interviews and/ or surveys of respondents with the instrument/strategy developed in steps b and c. Allow a minimum of one month between each observation.	OESO
f.	Between the third and sixth month after course completion conduct a series of interviews and/or surveys of the respondents in step e above. Allow a minimum of one month between observations.	OESO
g.	Compare pretraining and posttraining measures. Plot the results and examine for trends throughout the study. Determine probable causes of differences.	OESO
h.	Same as Organizational Leadership step g.	OESO
i.	Same as Organizational Leadership step h.	OEC&S

5. Organizational Performance

All steps remain the same as those for Organizational Leadership, except that the control group leader and the previous leader of the treatment group will not have had L&MDC training.

D. SUMMARY

Not addressed thus far has been the subject of milestones for the implementation of these steps. The Leader Development Plan calls for the integration and implementation of the Leadership Conference '79 tasks derived from Monograph 8 of the Leadership Monograph Series into program of instruction development by November 1980. Obviously, if this target date is realistic, it is mandatory that the initial steps for each criterion be undertaken immediately. Failure to do so will result in the lost opportunity to establish control measures for the organizational leadership program. The majority of the latter steps in each criterion are ongoing actions.

Even if the strategy outlined here is begun in time it must be recognized that assessment is a dynamic process. Changes in the environment as well as results of the experiments themselves will force modifications in the evaluation plan. The distinction between this situation and the one described above is that the decision maker has greater control over the course of the study and will be able to weigh the consequences of his/her actions.

In the concluding chapter the implications for future modifications of the evaluation plan are examined.

VI. CONCLUSION

A. AREAS OF FUTURE STUDY

1. Assessment Centers

Throughout the thesis the subject of assessment centers has been alluded to. An assessment center, as illustrated by the US Air Force, is simply a process in which an individual's behavior in a number of job related situations is observed and evaluated. The results of this evaluation may be useful to the decision maker in selecting a person for a particular job, acceptance into a program such as Army pre-commissioning training, or as Douglas Bray [1976], a developer of AT&T's assessment center, suggests:

> Since many of the goals of management training parallel the dimensions utilized for evaluation in assessment centers, it seems logical that assessment may provide a criterion for the effectiveness of training. [Leaders] could be assessed before and after training, or, in a more experimental design, they could be assigned randomly to training or no training conditions, or to different types of training, and assessed some time after training. It may be that the assessment center approach can finally throw some light on the overall effectiveness of [leadership] training and assist in pinpointing its strengths and weaknesses. [underscoring added]
>
> [Bray, 1976, p. 16-14]

This potential use of assessment centers warrants a closer look at the methodology. It is first necessary to point out that assessment is not new to the Army.

> In 1973 - 1974 the US Army Infantry School (USAIS) Assessment Center (ACTR) assessed students from the Infantry Officer Advanced Course (IOAC), the Infantry

> Officer Basic Course (IOBC), and the Advanced NCO Educational System (ANCOES) to determine the feasibility of the assessment center as techniques for leadership development and leadership prediction.
>
> [Dyer and Hilligoss, 1979, p. 1]

The assessment process took three-and-one-half days for each participant. During that time paper and pencil tests, simulated leadership tasks, and interviews were used by the assessors. Unfortunately the results of the study did not support the use of an assessment center.

> Field leadership ratings by superiors, peers, and subordinates were substantially the same at 6 and 18 months; that is, the ratings were reliable. The most assessor intensive formal ACTR exercises actually did the poorest job of predicting field leadership. Self-description provided the most leadership predictors and required the least assessor and assessee time.
>
> [Dyer and Hilligoss, 1979, p. 2]

Since this study considerable research has been done in the civilian community and favorable results recorded by such corporations as Sears, AT&T, IBM, Standard Oil (Ohio), etc. The reasons for the increasing interest in this methodology are: (1) Accuracy of the technique; (2) Powerful learning experience for leaders/assessors; (3) High acceptance of the results, and; (4) Fairness of the method. This increased interest by civilians was noted in the Review of Education and Training for Officers (RETO) study which recommended the technique be used to select individuals for officer training and that it be studied at the Command and General Staff College and the Army War College for career

development process. Currently the War College is actively developing an assessment center for its students. Colonel Anthony Nadal, Director of Curriculum Evaluation and Organizational Effectiveness, Army War College, has argued that the War College is the only school currently capable of conducting assessments. The ratio of assessors to participants at each of the other service schools he maintains is too low to warrant its consideration as a tool to aid in the development of the leader. [Nadal, 1980, Interview]

William Byham of Development Dimensions, Inc. lends support to this contention:

> The one-to-two [assessor - participant] ratio has been found to be the most efficient ratio for most assessment centers. While assessors can physically observe more than two participants in a group exercise, the one-to-two ratio produces almost the maximum amount of paper work than an assessor can be expected to accomplish in an assessment program.
>
> [Byham, 1978, p. 96]

While the assessor - participant ratio at the Officer Basic courses and the Command and General Staff College appears to rule out assessment at these levels it must be remembered what the objective is. When used to evaluate the effectiveness of leadership training the number of participants need not overwhelm the resources available. Random selection of a portion of the trained and control groups is sufficient for the information required. The Army should investigate the applicability of assessment methodology at each level of leadership training.

This variation of the assessment center is no different from the model Colonel Nadal is working on at the War College. Both consist of three components: (1) The dimensions to be assessed; (2) Assessment techniques, and; (3) The assessment staff. [Moses, 1978, p. 5 - 7]

The first component has already been identified as the eight organizational leadership dimension. To specify the particular behaviors of each dimension a front end task analysis of the officer positions is required. The Organizational Effectiveness Center and School has already completed this in accordance with the RETO Implementation Plan.

Assessment techniques commonly include; in-basket exercises, management games, leaderless group discussions, interviews, paper and pencil tests, and role playing. Each technique is designed to draw forth certain dimensions or behaviors. For a discussion of the techniques and the dimensions applicable to each see Lois A. Crooks' "The Selection and Development of Assessment Center Techniques" [1978]. It is the techniques of the Air Force's assessment methodology which have been criticized by the participants. They are not convinced that the sports programs accurately reflect the dimensions of leadership they are evaluated on.

The final component, the assessment staff, is the biggest investment required in this methodology. Already

mentioned was the ratio of staff to participants, other issues are; selection, rotating or semi-permanent assessors, acquaintance of the staff with the participants, and most importantly, assessor training. An interesting aspect of this component is the increased leadership skills of those people selected and trained as assessors. The process is as much a training vehicle for the staff as the participants.

Moses and Byham's [1978] Applying the Assessment Center Method provides an excellent source of articles concerning the implementation of assessment centers. Of particular interest is the report of a task force on developing assessment center standards. The report (contained as appendix G to this thesis) defines assessment centers, outlines the support and training necessary to operate one, and discusses the ethics involved in the operations.

2. Evaluation Design

As with all dynamic systems the only certainty about the Army's proposed leadership training program is that it will change. The first step in evaluation is monitoring the program to detect unanticipated or undesired changes. When these changes occur, as they inevitably will, the plan will require modifications to maintain its feasibility. This form of research is most appropriately left to the policy maker.

Another area greatly in need of further research is the identification of measures of organizational performance which can be linked directly to the behavior of the leader.

While the steps outlined in the action plan are clear, the time and effort necessary is considerable. Success in this area will not only benefit the evaluation of leadership training effectiveness but provide the unit commanders with badly needed guidance.

B. SUMMARY

Leadership training in the Army has come a long way from the rote memorization of principles and traits of leadership. With contributions from such scientific and academic researchers as those reviewed, the service now stands ready to meet the challenges of the 1980's and 1990's.

Unfortunately the question of whether or not this course of action is providing the better trained leaders has been neglected. It was shown that this oversight is not unique within the Army, both civilian and military programs suffer from the same inadequacies in evaluation (Fiedler and the Coast Guard notwithstanding). The consequence of this ambivalence towards assessment is potentially made more severe in the face of increasingly limited resources without a concomitant reduction in the mission. It will never be known if the training is the best possible or if this best effort is good enough without an aggressive, scientifically proven, evaluation of the program.

The purpose of this thesis has been to raise the question of evaluation and to offer a plan whereby the issue of training

effectiveness can be studied. As in any proposal there remain issues which must be addressed at the highest levels of the organization. Specifically, the matter of control groups must be resolved. Does the need for everyone to receive leadership training at the same point in their careers outweigh the benefits provided by a true experimental control? It has been the contention here that such a need does not overshadow the requirement to establish a true control group.

The specific evaluation plan proposed here has met the six conditions which Campbell, et al., [1970] express as being necessary in any attempt to assess training. These are:

> 1. Utilization of multiple criteria...for the purpose of more adequately reflecting the multiple contributions of [leaders] to the organization's goals.
>
> 2. Some attempts to study the criteria themselves, that is their interrelationships and their relationships with other relevant organizational variables. The relationship between internal and external criteria is especially important. If the development program affects the internal criteria but not the external criteria, then even though learning may be taking place, it apparently does not have any relevance for the organization's goals. If the converse is true, then the training program apparently has an effect on job performance, but not for the reasons intended by the trainers.
>
> 3. Enough experimental control to enable the causal arrow to be pointed at the training program.
>
> 4. Provisions for saying something about the practical and theoretical significance of the results.
>
> 5. A thorough, logical analysis of the process and content of the training itself.

6. Some effort to deal with the "systems" aspects of training impact, that is, how the training effects are altered by interaction with other organizational subsystems.

[Campbell, et al., 1970, p. 284]

Bunker and Cohen [1978, p. 11] best summarize the contention of this thesis: "'going the extra mile' and conducting a comprehensive and well controlled investigation may be more mandatory than optional, more investment than expense, more income than cost."

APPENDIX A

ORGANIZATIONAL LEADERSHIP DIMENSIONS of the UNITED STATES ARMY

1. COMMUNICATION

a. Interpersonal Techniques and Focus

Effective commanders are able to deliver interpersonal feedback, to "read" nonverbal as well as verbal cues, and to utilize informal information networks.

b. Organizational Techniques and Focus

Call upon the individual to listen carefully in order to assimilate as much factual data as possible; and to concentrate on interpreting, interpolating, and synthesizing information.

2. HUMAN RELATIONS

a. Intergroup Relations

The ability to deal effectively with individuals within a work group (keeps subordinates informed, applies rewards equitably, shows interest in subordinates welfare, and diagnose subordinate motivation).

b. Intragroup Relations

The ability to work with several groups.

3. COUNSELING

a. Personal Counseling

Assists individual in developing and implementing an action plan enabling them to better handle problem areas.

b. Performance Counseling

To convey to the individual the nature of his functioning on the job.

4. SUPERVISION

a. Procedures

Organizing, directing, inspecting, advising, explaining, maintaining, troubleshooting, and motivating.

b. Techniques

5. TECHNICAL

a. Specific Content Area

b. Procedures, Techniques, Principles

c. Focus on Motor Skills

6. MANAGEMENT SCIENCE

a. Procedures

b. Processes

Controlling, organizing, development, evaluation, problem solving, setting objectives.

7. DECISION MAKING

a. Climate Variable

b. Conceptual Ability

c. Process and Procedures

8. PLANNING

a. Procedures

Establishing policies, allocating resources, budgeting programming, scheduling.

b. Processes

Dealing with change, conceptualizing, forecasting, strategizing, problem finding.

9. ETHICS

   a. Individual Behavior and Values

   b. Professionalism

   c. Organizational Responsibilities

APPENDIX B

OBJECTIVES of the UNITED STATES ARMY'S LEADERSHIP and MANAGEMENT DEVELOPMENT COURSE

1. MONDAY

   a. Greater ability to learn from experience.

   b. Interest, involvement and investment in course.

   c. Behavior which contributes to group learning.

   d. Willingness to share relevant personal information.

   e. Accurately diagnose and correct communications blockages.

   f. Give and receive effective feedback.

   g. Explain own behavior in terms of values.

   h. Communicate non-defensively.

2. TUESDAY

   a. Communicate directly and accurately with others.

   b. Accurately defines the central issue which the group is working either overtly or covertly and behaves in a way which facilitates resolution of the issues.

   c. Effectively uses active listening to encourage others to talk and to better understand one another.

   d. Avoids or deals effectively with win/lose situations.

   e. Behaves as an effective member of a team.

   f. Behaves in ways which will reduce dysfunctional conflict in the group.

3. WEDNESDAY

a. Successfully influences others' behavior in terms of both short and long-term goals, while building his relationship with those others.

b. Recognizes the need for functional roles in a group and demonstrates ability to take several roles as required.

c. Uses FIRO theory to explain group behavior and predict successful leadership behavior.

4. THURSDAY

a. Successfully constructs measureable performance objectives.

b. Uses "I" messages and active listening effectively in performing counseling.

c. Uses active listening to successfully help another solve a personal problem.

d. Uses non-directive leadership behaviors effectively in appropriate situations.

e. Recognizes the value and uses effective confrontation with others.

5. FRIDAY

a. Actively and productively uses Outcomes -- Methods -- Resources model.

b. Indicates interest in the application of Organizational Effectiveness techniques in his/her work.

c. Takes responsibility to reach "closure" with the course.

6. POST-COURSE

a. Applies learnings from L&MDC successfully on the job.

APPENDIX C

ADVANTAGES and DISADVANTAGES of the UNITED STATES ARMY'S LEADERSHIP and MANAGEMENT DEVELOPMENT COURSE

1. ADVANTAGES

a. Soft data are highly favorable.

b. L&MDC has a dramatic initial effect.

c. An environment highly conducive to attitudinal and behavioral change is fostered.

d. Only five days are required to conduct L&MDC.

e. A wide range of learning catagories are covered (and makes use of current unit problems).

f. The content of L&MDC is flexible and can be designed to meet the needs of the attendees.

g. L&MDC can be used with stranger groups or "family" groups, but the latter requires more facilitator expertise and cognizance of restructuring and redesign considerations.

h. Provides opportunity for personal as well as professional growth.

2. DISADVANTAGES

a. Hard data are inconclusive.

b. Facilitators must be well-trained to deal with whatever intrapersonal or interpersonal conflicts occur.

c. There is little specific skill practice.

d. Some threat is experienced by participants. The degree depends on the individual participant and the experience of the facilitator.

e. L&MDC requires two facilitators for every twelve to twenty attendees.

f. Demand on facilitators is high.

g. Unit personnel cannot easily be trained to conduct in-house training.

h. Five days of uninterrupted training is required to present the complete L&MDC and achieve maximum benefits.

APPENDIX D

COMPETENCIES of the UNITED STATES NAVY'S PROGRAM for LEADERSHIP and MANAGEMENT EDUCATION and TRAINING

1. CONCERN FOR EFFICIENCY AND EFFECTIVENESS

a. Sets Goals and Performance Standards

Identification of a problem or concern in terms of specific goals. This may include the following:

(1) Mention of specific goal or definition of a revised outcome in terms of an action plan.

(2) Expression of concern for a unit's standards of task performance.

(3) Mention of an effort to reconsider goals in order to make them more realistic.

(4) Setting of deadlines for task accomplishment.

The person must personally set goals or clearly promote on his or her own the goals set by the organization.

b. Takes Initiative

Accepting responsibility of one's own volition or taking intiative in accomplishing a task. This includes:

(1) Being the causal agent in a situation.

(2) Being proactive rather than reactive or passive.

(3) Initiating new actions, communications, proposals, meetings, or directives to accomplish a task.

(4) Exhibiting resourcefulness and persistence (defined as taking two or more actions to circumvent an obstacle) rather than giving up or accepting failure.

The initiative must not be externally motivated (e.g. occasioned by a direct order or emergency situations.

2. SKILLFUL USE OF INFLUENCE

a. Influences

Successful action to influence others. Pursuit of an effective strategy. Specific influence methods and skills include:

(1) Persuasive speaking, briefing, or selling ideas by putting them in terms of other's self-interest.

(2) Building political coalitions or potential influence networks.

(3) Influencing by personal example, i.e. molding desirable motivation or behavior (personal charisma).

(4) Explaining why, sharing information, or communicating intent of actions to influence others.

(5) Gaining commitment to organizational goals, traditions, and values by appealing to a higher purpose.

(6) Making others feel strong.

The influence strategy must be successful.

b. Develops Subordinates (Coaches)

Takes action to instruct, coach, help, train, or develop co-workers or subordinates to do their jobs better, to be more skillful and responsible in getting the job done, or to meet the qualification standards. This may be accomplished in any of the following ways:

(1) Transferring expertise by setting an example.

(2) Providing the information necessary to get the job done.

(3) Developing subordinates or supporting their self-development efforts by making available to them training opportunities, expert help, and resources. The expertse must be transferred to the subordinate.

This competency does not include helping subordinates with personal problems.

c. Team Builds

Acting to promote a spirit of teamwork and cooperation within a work group or with another work group or organization; or rewarding contribution to a team effort. This may be accomplished in any of the following ways:

(1) Communicating to others the need for cooperation or teamwork.

(2) Producing teamwork in nonroutine situations which require cooperation between and among people and work groups in order to accomplish an important task.

(3) Acting to create symbols of group identity, pride, or team effort.

d. Self-Control

Control of impulses, suppression of rage, control of emotional involvement, remaining calm in potentially explosive situations. The emotions most often controlled are anger (exploding at people) and affiliation (getting too close to one's subordinates). Some examples include:

(1) Holding back on an impulse to say or do something and replacing impulsive behavior with a more appropriate response.

(2) Not showing anger when under attack.

(3) Making decisions only after identifying and weighing all the facts in the situation.

(4) Controlling the urge to "do it yourself" and instead managing others to take personal responsibility which has been assigned to them.

3. MANAGEMENT CONTROL

a. Plans and Organizes

Planning or organizing activities, people, or materials in a hierarchial (priority), temporal (sequential), spatial, chain of command, administrative, or other order that proceeds from a problem to a goal state. The following conditions may be present:

(1) Identification of action steps, resources, or constraints involved in reaching an objective.

(2) Preparation of a schedule of activities.

(3) Analysis and prioritizing of alternative courses of action.

(4) Anticipation of specific obstacles before the plan is executed.

(5) Organization of people, materials, or activities in a new way to accomplish the task.

b. Optimizes Use of Resources

Realistically assessing and weighing the assets and limitations of people and tasks before organizing a work group for the purpose of maximizing task accomplishment. This may occur in the following ways:

(1) Analyzing the capabilities of individuals and characteristics or requirements of jobs and matching people and jobs to optimize task performance.

(2) Fully using available human resources to accomplish meaningful tasks (not "make work").

(3) Considering trade-offs between task requirements and individual's needs to optimize both performance and morale.

c. Delegates

Uses the chain of command to get subordinates to take responsibility by any of the following means:

(1) Clearly assigning responsibility for task accomplishment to others.

(2) Using or supporting the use of the chain of command to get subordinates to share in task management.

(3) Encouraging others to seek task management responsibility by methods other than direct orders to perform a task.

d. Monitors Results

(1) Monitoring a work process by seeking information regarding task progress or by direct observation.

(2) Checking up on the results of one's own or others' actions.

(3) Evaluating the outcome of a task against a standard of performance.

e. Rewards

(1) Providing positive feedback to others for their performance on a specific task.

(2) Officially citing or recognizing others for their meritorious accomplishments, and withholding rewards when tasks have not been effectively accomplished.

f. Disciplines

Disciplining, and holding accountable, a subordinate, or giving someone negative feedback on inappropriate appearance, behavior, or performance.

4. ADVISING AND COUNSELING

a. Positive Expectations

Expressions of belief or trust in people's basic worth or ability to perform, as typified by statements involving the following:

(1) A strong conviction that others are fully capable of doing good work when given the chance.

(2) Generalized positive feelings toward other people (e.g. "He was a super Seaman" or I've got the best group of PO's you ever saw").

(3) Believing that subordinates are valuable resources.

b. Realistic Expectations (Negative Expectations)

Expression of any of the following as a concern for the impact of other's limitations:

(1) Doubts and concerns about others' ability to perform.

(2) Sensitivity and a realistic concern that orders will not be followed or carried out effectively by others.

(3) Open acknowledgement of these negative expectations about the shortcomings of individual or group performance.

(4) Openly stating one's displeasure, disappointment, and concern about the shortcomings of individual and group performance.

c. Understands

Accurately identifying and helping others to understand what created a problem and what is the real agenda, and responding appropriately to get the job done. This type of empathy or insight is being able to uncover and accurately summarize the feelings which underlie a person's initial statements and reports. It is "knowing what other people feel" (the ability to accurately assess others' motives, thoughts, and behavior or patterns), not "feeling what they feel" (personally sympathizing with people, which may be dysfunctional in getting the job done). Examples are:

(1) Citing the feelings of another person in an accepting fashion (e.g., "I knew he was feeling resentful" or "He was disgusted").

(2) Mention of understanding the motives of another or "figuring someone out," with evidence to back up the diagnosis.

5. CONCEPTUAL THINKING

a. Conceptualizes

Identification, through an inductive process, of a concept (problem, condition, conclusion, or other state) which is greater than merely the sum of the specific examples from which the concept is derived. The following elements must be present:

(1) Evidence that the person has rigorously searched and identified the available facts.

(2) Evidence that the person has organized the facts so as to draw realistic, plausible inferences about the problem.

(3) Use of two or more alternative concepts which taken together, make up an overarching concept ("X versus not-X," or X versus Y," where X and Y are parallel concepts).

(4) An implied comparison of (a) what now exists, and (b) what ideally should exist.

(5) Evidence that conclusions and final judgements are based on and supported by the evidence of facts.

APPENDIX E

CHARACTERISTICS OF THE MARINE CORPS LEADERSHIP PROGRAM

The Marine Corps Leadership Program, with heavy emphasis on human relations, is a values oriented program designed to improve relationships among Marines, between Marines and individuals outside the Corps, and to deal with contemporary problems in leadership, discipline, and military professionalism. It is conceived as a training tool that is designed to cover all aspects of human understanding and moral character as opposed to only race relations. The ultimate objective is combat effectiveness.

The Marine Corps Leadership Program has four basic characteristics:

a. The program is guided by research and experimentation. The educational materials used in the program, the methods of instruction, and the implementation procedures are all results of extensive research. Scientific studies, surveys and experiments, conducted by the Institute for International Research, are provided to Headquarters Marine Corps to update and enhance the program.

b. The program is based on objective values, rather than being based on "relativistic" or "self" theories. The Leadership Program attempts to rejuvenate a concern for some of the basic values we hold as Americans; values such as freedom, democracy, equality, and the need for order. The dominant theme, the dual-life value, is defined operationally as the belief that: we have a duty to others and we have a duty to ourselves. This values concept holds that all complex human problems, e.g. the women's movement, drug abuse, and family breakdown, derive from the same source -- a confusion of values. Hence, the starting point for a long-term solution to any of our human problems must be the identification of common values by all of the conflicting sectors of society, especially inside the Corps.

c. The third characteristic is the guided inter-group discussion. The learning discussion group serves as a forum for the rational exchange of ideas. It is also an opportunity for leaders to provide their Marines with factual information to dispel the emotional basis for myths and misunderstandings about human differences.

d. The fourth characteristic is that the program is action oriented. The discussion groups are designed to motivate Marines to adjust their behavior in positive ways, through interpersonal relations with others. To adjust behavior, Marines must develop skills which will facilitate positive behavioral adjustments. This is the self-development part of the individual action.

Contemporary problems of concern to Marines are discussed within the framework of the dual-life value philosophy. In its simplest terms, the dual-life concept holds that all persons have two very strong internal drives, not the only drives, but certainly those that every person possesses. These drives are the desire for the survival of oneself, to include the survival of one's close circle of friends and family, and secondly, the desire for the unit or society in general to survive. This philosophy provides the leadership program with a backdrop against which Marines can discuss contemporary problems and begin to formulate solutions.

[USMC, Leadership, 1979, p. 245]

APPENDIX F

UNITED STATES COAST GUARD
LEADERSHIP and MANAGEMENT DEVELOPMENT PROGRAM

MISSION:

To provide the necessary direction, assistance, and support to Coast Guard personnel--line and staff--in supervisory positions ensuring that the most effective use is made of the resources--human and other--at their disposal.

PROGRAM GOAL:

To make the most effective use of our training and resource development dollars by:

1. Ensuring the availability and use of appropriate, professional and consistent leadership and management principles and skills throughout the Coast Guard; and

2. providing methodologies that can be used to develop leadership and management skills at servicewide, district, and unit levels.

SPECIFIC OBJECTIVES:

1. To determine the leadership and management related functions and training needs of the service.

2. To provide a development program which helps supervidory personnel deal with their most significant leadership and management problems.

3. To provide appropriate methodologies for leadership and management development programs.

4. To provide an institutionalized program which ensures that consistent and relevant leadership and management development techniques are available and used at all levels.

5. To create, throughout the hierarcial structure of the service, an atmosphere (attitude and culture) which fosters the continued growth of effective leadership and management skills.

6. To provide a means to continually assess the changes to organizational climate and performance levels which results from leadership and management development efforts.

7. To provide assistance, as requested, in the diagnosis, implementation, and assessment phases of organizational change efforts within the Coast Guard.

At the time of this writing the above listed objectives were being modified. The following goals have been identified but not yet sanctioned.

To determine the functions and training needs of Coast Guard supervisors and managers

To provide guidance for and coordination of the training programs by which supervisory and management knowledge and skills are developed.

To assess the impact of supervisory and management training on the knowledge, attitude, behavior, and performance within the service.

To continually assess the organizational climate within the Coast Guard.

To provide expert advisors to be available to assist in the planning, implementing, and assessing of the impact of organizational changes on Coast Guard personnel.

To assess the need for and make recommendations about the process by which managers and supervisors are developed.

To continually develop personnel with the expertise to accomplish these other objectives.

APPENDIX G

STANDARDS FOR ETHICAL CONSIDERATIONS for ASSESSMENT CENTER OPERATIONS

1. Rationale for Assessment Center Standards

The rapid growth in the use of the assessment center method in recent years has resulted in a proliferation of applications in a variety of organizational, educational, and governmental settings. Serious concerns have been raised by many interested parties which reflect a need for a set of minimal professional standards for users of this technique. The standards should:

Define what is meant by assessment center
Describe minimal acceptable practices concerning:
- Organizational support for assessment operations
- Assessor training
- Informed consent on the part of the participants
- Use of assessment center data
- Validation of issues

These standards are not designed to prescribe specific practices. Neither do these standards in any way endorse a specific assessment center format or specific assessment techniques. Rather we have attempted to provide general principles which can be adapted to meet existing and future applications. The reader should keep in mind the spirit by which these standards were written: as an aid to the assessment center user, rather than a set of restrictive prohibitions.

2. Assessment Center Defined

To be considered as an assessment center, the following minimal requirements must be met:

Multiple assessment techniques must be used. At least one of these techniques must be a simulation.

A simulation is an exercise or technique designed to elicit behaviors related to dimensions of performance on the job by requiring the participant to respond behaviorally to situational stimuli. The stimuli present in a simulation parallel or resemble stimuli in the work situation. Examples

of simulations include group exercises, in-basket exercises, and fact-finding exercises.

Multiple assessors must be used. These assessors must receive training prior to participating in a center.

Judgements resulting in an outcome (i.e. recommendation for promotion, specific training or development) must be based on pooling information from assessors and techniques.

An overall evaluation must be made by the assessors at a separate time from observation of behavior.

Simulation exercises are used. These exercises are developed to tap a variety of predetermined behaviors and have been pre-tested prior to use to insure that the techniques provide reliable, objective, and relevant behavioral information for the organization in question.

The dimensions, attributes, characteristics, or qualities evaluated by the assessment center are determined by an analysis of relevant job behaviors.

The techniques used in the assessment center are designed to provide information which is used in evaluating the dimensions, attributes, or qualities previously determined.

In summary, an assessment center consists of a standardized evaluation of behavior based on multiple inputs. Multiple trained observers and techniques are used. Judgements about behavior are made, in part, from specially developed assessment simulations.

These judgements are pooled by the assessors at an evaluation meeting during which all relevant assessment data are reported and discussed, and the assessors agree on the evaluation of the dimensions and any overall evaluation that is made.

The following kinds of activities do not constitute an assessment center:

Panel interviews or a series of sequential interviews as the sole technique.

Reliance on a specific technique (regardless of whether a simulation or not) as the sole basis for evaluation.

Using only a test battery composed of a number of pencil and paper measures, regardless of whether the judgements

are made by a statistical or judgemental pooling of scores.

Single assessor assessment (often refered to as individual assessment) - measurement by one individual using a variety of techniques such as paper and pencil tests, interviews, personality measures, or simulations.

The use of several simulations with more than one assessor where there is no pooling of data - i.e. each assessor prepares a report on performance in an exercise, and the individual reports (unintegrated) are used as the final product of the center.

A physical location labeled as a "assessment center" which does not conform to the requirements noted above.

3. Organizational Support for Assessment Center Operations

The assessment center should be administered in a professional manner with concern for the treatment of individuals, accuracy of results, and overall quality of the operation. Assessment centers should be incorporated as part of a total system rather than as a process that operates in a vacuum. Considerable care and planning should precede the introduction of an assessment center. Policy statements concerning assessment operations should be formally developed and agreed upon by the organization. Minimal considerations in developing this policy should include:

The population to be assessed.

The purpose of assessment.

The kinds of people who will serve as assessors.

The type of training they receive and who is to provide it.

The responsibility for administration of the center.

Specific restrictions concerning who is to see the assessment data, and how they are to be used.

Procedures for collection of data for research and program evaluation.

Feedback procedure to participants and management.

Expected "life" of assessment center - i.e. the length of time assessment center data will be kept in the files and used for decision-making purposes.

The professional qualifications (including relevant training) of the individual or individuals initially responsible for developing the center.

4. Assessor Training

Assessors should receive sufficient training to enable them to evaluate intelligently the behaviors measured in the center. "Sufficient training" will vary from organization to organization and is a function of many factors including:

The length of time an individual serves as an assessor.

The frequency of individual participation as an assessor.

The amount of time devoted to assessor training.

The qualification and expertise of the assessment center trainer.

The assessment experience of other members of the assessment staff.

The use of professionals (i.e. licensed or certified psychologists) as assessors.

The above list is illustrative of the many issues related to assessor training. There is more variability in this area than in any other section of the standards.

While we do not wish to establish minimal standards concerning the number of hours of assessor training needed, it is difficult to imagine assessors functioning effectively with only a one- or two-hour orientation prior to serving as an assessor. However, whatever the approach to assessor training the essential goal is attaining accurate assessor judgements. A variety of training approaches can be used, as long as it can be demonstrated that accurate assessor judgements are obtained. The following minimum training is required:

Knowledge of the assessment techniques used. This could include, for example, the kinds of behaviors elicited by each technique, relevant dimensions to be observed, expected, or typical behaviors, examples or samples of actual behaviors, etc.

Knowledge of the assessment dimensions. This could include, for example, definitions of dimensions, relationship to other dimensions, relationship to job performance, examples of effective and ineffective performance, etc.

Knowledge of behavior observation and recording including the forms used by the center.

Knowledge of evaluation and rating procedures including how data are integrated by the assessment center staff.

Knowledge of assessment policies and practices of the organization, including restrictions on how assessment data are to be used.

Knowledge of feedback procedures where appropriate.

In addition, some measurement is needed indicating that the individual being trained has the capability of functioning as an assessor. The actual measurement of assessor performance may vary and could, for example, include data in terms of rating performance, critiques of assessor reports, observation as an evaluator, etc. What is important is that assessor performance is evaluated to insure that individuals are sufficiently trained to function as assessors, prior to their actual duties, and that such performance is periodically monitored to insure that skills learned in training are applied.

5. Informed Consent on the Part of the Participants

Informed consent is a fundamental concern in conducting an assessment center program. This means that the participant is given sufficient information prior to assessment to evaluate intelligently the nature of the program and the consequences of attending or not attending a center. While organizations have the right to require participation in an assessment program as a condition of employment or advancement, individuals should not simply be "sent" to a center with little awareness of why they are going. Rather, they should be provided with sufficient information to decide whether or not they should attend.

While the actual information provided will vary from organization to organization, the following basic information should be given to all prospective participants:

The purpose of the center and the objectives of the program.

How individuals are selected to participate in the center.

General information about the assessors - the composition

of the staff and their training.

General information concerning the assessment process itself. This should include a description of the techniques and how the results will be used, the kind of feedback given.

Reassessment policy.

It is recognized that many assessment center programs have descriptive names or titles which are often neutral or purposefully general. This is an acceptable practice. However, it would be inappropriate to suggest to participants that the assessment center is for personal development or training when the clear intent is for selection or management staffing.

6. Use of Assessment Center Data

One characteristic of an assessment center is the volume of data produced. There are many different forms of assessment data, ranging for example, from observer notes, to reports on performance in the assessment techniques, to assessor ratings, and reports prepared for management. The preceding is not exhaustive and could also include participant and peer reports and observations, biographical and test data, etc.

The specific purpose of the reports and data obtained by the assessment center should be clearly established. This will include a statement concerning individuals who will have access to assessment data, the kind of information they will receive, and the format that will be provided.

The recipient of assessment data will be given sufficient information or training so that the data provided can be clearly interpreted. This will include an estimate of the relevance of current assessment data for the use in the future.

The individual assessed should be informed of how the assessment data are to be used. This will include:

Who has access to assessment reports.

Whether participants will normally receive feedback concerning assessment performance. If not, provisions must be made to provide such information upon specific request.

How long assessment data will be retained for operational use (as opposed to research use).

7. Validation Issues

A major factor in the widespread acceptance and use of assessment centers is directly related to an emphasis on sound validation research. Numerous studies have been conducted and reported in the professional literature demonstrating the validity of the assessment center process in a variety of organizational settings.

The historical record of the validity of this process, however, cannot be taken as a guarantee that a given assessment program will or will not be valid in a given setting. Because of this, each user must ascertain the validity of the program as applied to one's organization. The technical standards and principles for validation are well documented and appear in "Principles for the Validation and Use of Personnel Selection Procedures" prepared by the Division of Industrial and Organizational Psychology, American Psychological Association, 1975, and Standards for Educational and Psychological Tests and Manuals" prepared by the American Psychological Association, 1974.

In addition to the above standards which include provisions related to demonstrating fairness and validity, some specific guidelines are provided for assessment center programs. These include:

The ability to document the selection of dimensions, attitudes, or qualities evaluated in the center.

The ability to document the relationship of assessment center techniques to specific dimensions, attributes, or qualities evaluated.

The ability to document the demographic composition of the assessment staff as representative of the group of individuals assessed.

8. Concluding Statement

It became obvious in developing these standards that the standards should serve as guidelines rather than doctrine. Rather than create a set of standards that become ends in themselves, the authors attempted to provide a series of general principles which can apply to both managers and professionals using this technique. These standards should enable the assessment center professional to create, implement, and maintain assessment center programs that protect the rights of the individuals while meeting organizational needs at the same time.

[Moses and Byham, 1978, p. 303 - 309]

FOOTNOTES

CHAPTER I

1. Donald L. Kirkpatrick is professor of Management Development at the University of Wisconsin - Extension, Milwaukee. He is a past president of the American Society of Training Developers and has authored numerous articles and books on training evaluation.

CHAPTER III

2. An indicator variable is a variable from the test battery which is either: (1) Significantly correlated with competency elements mentioned in a critical incident interview; or, (2) Correlated with the behaviors reflected in that competency element in prior research.

BIBLIOGRAPHY

Alden, Jay, "Evaluation in Focus," Training and Development Journal, October 1978, pp. 46 - 50.

Angrist, Shirley S., "Evaluation Research: Possibilities and Limitations," The Journal of Applied Behavioral Science, vol. 11, no. 1, 1975, pp. 75 - 91.

Ballentine, Rodger D., Development of an Instrument for Evaluation of a Management Education Program, Master's Thesis, North Texas State University, Denton, Texas, 1977.

Blake, Robert R. and Jane S. Mouton, Making Experience Work: The Grid Approach to Critique, McGraw Hill Book Co., New York, 1978.

Bloom, Benjamin S., "Testing Cognitive Ability and Achievement," in Nathaniel L. Gage (ed.), Handbook of Research on Teaching, Rand McNally and Co., Chicago, 1963, pp. 379 - 397.

Blumenfeld, Warren S. and Donald P. Crane, "Opinions of Training Effectiveness: How Good?" Training and Development Journal, December 1973, pp. 42 - 51.

Bowers, David G. and Jerome L. Franklin, Survey-Guided Development: Data Based Organizational Change, University of Michigan, Institute for Social Research, June 1975.

Bray, Douglas W., "The Assessment Center," in Robert L. Craig (ed.), Training and Development Handbook, McGraw Hill Inc., New York, 1976, pp. 16-1 - 16-15.

Bunker, Kerry A. and Stephen L. Cohen, "Evaluating Organizational Training Efforts: Is Ignorance Really Bliss?" Training and Development Journal, August 1978, pp. 4 - 11.

Burns, James MacGregor, Leadership, Harper and Row, New York, 1978.

Byham, William C., "Assessor Selection and Training," in Joseph L. Moses and William C. Byham (eds.) Applying the Assessment Center Method, Pergamon Press, New York, pp. 89 - 126.

Campbell, Donald T. and Julian C. Stanley, "Experimental and Quasi-Experimental Designs for Research on Teaching," in Nataniel L. Gage (ed.), Handbook of Research on Teaching, Rand McNally and Co., Chicago, 1963, pp. 171 - 241.

Campbell, Donald T., "Reforms as Experiments," in Carol H. Weiss (ed.), Evaluating Action Programs: Readings in Social Action and Education, Allyn and Bacon, Inc., Boston, 1972, pp. 187 - 223.

Campbell, John P., Marvin D. Dunnette, Edward E. Lawler, and Karl E. Weick Jr., Managerial Behavior, Performance, and Effectiveness, McGraw Hill Inc., New York, 1970.

Chemers, Martin M. and Robert W. Rice, "A Theoretical and Empirical Examination of Fiedler's Contingency Model of Leadership Effectiveness," in James G. Hunt and Lars L. Larson (eds.), Contingency Approaches to Leadership, Southern Illinois University Press, Carbondale, Illinois, 1974, pp. 91 - 123.

Clement, Stephen D. and William H. Zierdt, III, "A Progressive Model for Leadership Development," US Army Leadership Monograph Series # 7, US Army Administration Center, Fort Benjamin Harrison, Indiana, 1975.

------, and Donna B. Ayres, "A Matrix of Organizational Leadership Dimensions," US Army Leadership Monograph Series # 8, US Army Administration Center, Fort Benjamin Harrison, Indiana, 1976.

------, and Donna B. Ayres, "Organizational Leadership Tasks for Army Leadership Training," US Army Leadership Monograph Series # 9, US Army Administration Center, Fort Benjamin Harrison, Indiana, 1977.

Crooks, Lois A., "The Selection and Development of Assessment Center Techniques," in Joseph L. Moses and William C. Byham (eds.), Applying the Assessment Center Method, Pergamon Press, New York, 1978, pp. 69 - 87.

Csoka, Louis S. and Paul M. Bons, "Manipulating the Situation to Fit the Leader's Style: Two Validation Studies of Leader Match," Journal of Applied Psychology, vol. 63, no. 3, 1978, pp. 295 - 300.

Dyer, Fredrick N. and Richard E. Hilligoss, Using as Assessment Center to Predict Field Leadership Performance of Army Officers and NCOs, US Army Institute for the Behavioral and Social Sciences, Alexandria, Virginia, 1979.

Eoyang, Carson K., Military Personnel Research: Science or Politics, working paper, Human Resources Management Research Program, Naval Postgraduate School, Monterey, California, 1977.

Farlow, Timothy N., The Feasibility and Potential Desirability of Incorporating Organizational Development Techniques into the Marine Corps Leadership Training Program, Master's Thesis, Naval Postgraduate School, Monterey, California, 1977.

Fiedler, Fred E., A Theory of Leadership Effectiveness, McGraw Hill, Inc., New York, 1967.

------, "Note on the Methodology of Graen, Orris, and Alvares Studies Testing the Contingency Model," Journal of Applied Psychology, vol. 55, no. 3, 1971, pp. 202 - 204.

------, "The Contingency Model: New Directions for Leadership Utilization," in Associates, Office of Military Leadership, United States Military Academy (eds.), A Study of Organizational Leadership, Stackpole Books, Harrisburg Pennsylvania, 1976a, pp. 349 - 361.

------, "The Trouble with Leadership Training is that it Doesn't Train Leaders," in William R. Lassey and Richard R. Fernandez (eds.), Leadership and Social Change, University Associates, Inc., LaJolla, California, 1976b, pp. 238 - 246.

------, "The Leadership Game: Matching the Man to the Situation," in John M. Ivancevich, Andrew D. Szilagyi, Jr., and Marc J. Wallace, Jr. (eds.), Readings in Organizational Behavior and Performance, Goodyear Publishing Co., Inc., Santa Monica, California, 1977.

------, and Louis S. Csoka, "The Contingency Model and the Effects of Leadership Training and Experience," in K.W. Tilley (ed.), Leadership and Management Appraisal, English University Press, Ltd., London, 1974, pp. 215 - 227.

------, and Martin M. Chemers, Leadership and Effective Management, Scott Foresman and Co., Glenview, Illinois, 1974.

------, Martin M. Chemers, and Linda Mahar, Improving Leadership Effectiveness: The Leader Match Concept, John Wiley and Sons, Inc., New York, 1977.

Fiedler, Fred E., and Linda Mahar, "A Field Experiment Validating Contingency Model Leadership Training," Journal of Applied Psychology, vol. 64, no. 3, 1979, pp. 247 - 254.

Field, R. H. George, "A Critique of the Vroom - Yetton Contingency Model of Leadership Behavior," Academy of Management Review, vol. 4, no. 2, 1979, pp. 249 - 257.

Fleishman, Edwin A., "The Leadership Opinion Questionnaire," in Ralph M. Stogdill and Alvin M. Coons (eds.), Leader Behavior: Its Description and Measurement, Ohio State University, Columbus, Ohio, 1957, pp. 121 - 133.

Gibb, Cecil A., "Leadership," in Gardner Lindsey and Elliot Aronson (eds.), The Handbook of Social Psychology, Addison - Wesley Publishing Co., Menlo Park, California, 1969, pp. 205 - 282.

Graen, George, James B. Orris, and Kenneth M. Alvares, "Contingency Model of Leadership Effectiveness: Some Methodological Issues," Journal of Applied Psychology, vol. 55, no. 3, 1971, pp. 205 - 210.

Heinl, Robert D., Jr., The Marine Officer's Guide, Naval Institute Press, Annapolis, Maryland, 1977.

Hemphill, John K. and Alvin E. Coons, "Development of the Leader Behavior Description Questionnaire," in Ralph M. Stogdill and Alvin M. Coons (eds.), Leader Behavior: Its Description and Measurement, Ohio State University, Columbus, Ohio, 1957, pp. 6 - 38.

Henderson, Peter, "Assessing the Assessment Center: New Dimensions in Leadership," Air University Review, 1976, pp. 48 - 54.

Hersey, Paul and Kenneth H. Blanchard, "Life Cycle Theory of Leadership: Is There a 'Best' Style of Leadership?" Training and Development Journal, May 1969, pp. 26 - 34.

------, and Kenneth H. Blanchard, Management of Organizational Behavior: Utilizing Human Resources, Prentice Hall, Inc., Englewood Cliffs, New Jersey, 1977.

Hollander, Edwin P., Leadership Dynamics: A Transactional Perspective, Department of Psychology, State University of New York, Buffalo, New York, February 1978.

Huse, Edgar F., Organizational Development and Change, West Publishing Co., New York, 1975.

Jacobs, T. O., Leadership and Exchange in Formal Organizations, Human Resources Research Organization, Alexandria, Virginia, 1971.

Jago, Arthur G. and Victor H. Vroom, "Predicting Leader Behavior from a Measure of Behavioral Intent," Academy of Management Journal, vol. 21, no. 4, 1978, pp. 715 - 721.

Kelly, E. Lowell, Assessment of Human Characteristics, Brooks/Cole Publishing Co., Belmont California, 1967.

Kirkpatrick, Donald L., "Evaluating In-House Training Programs," Training and Development Journal, September 1978, pp. 6 - 9.

------, "Techniques for Evaluating Training Programs," Training and Development Journal, June 1979, pp. 78 - 92.

Klemp, George O., Mark T. Munger, and Lyle M. Spencer, Analysis of Leadership and Management Competencies of Commissioned and Noncommissioned Naval Officers in the Pacific and Atlantic Fleets, McBer and Company, Boston, 1977.

Lavisky, Saul, Army Training Research: A Thirty-five Year History With Implications for Educational Research and Development, Ph.D. Thesis, University of Maryland, 1977.

Leister, Albert, Donald Borden, and Fred E. Fiedler, "Validation of Contingency Model Leadership Training: Leader Match," Academy of Management Journal, September 1977, pp. 464 - 470.

Levin, Henry M., "Cost-Effectiveness Analysis in Evaluation Research," in Marcia Guttentag and Elmer L. Struening (eds.), Handbook of Evaluation Research, Vol. 2, Sage Publications, Beverly Hills, California, 1975, pp. 89 - 122.

Marcott, R. J., CDR, USCG, "The Coast Guard Leadership and Management School," OE Communique, January 1978, pp. 11 - 18.

Mirabel, Thomas E., "Forecasting Future Training Costs," Training and Development Journal, July 1978, pp. 78, 87 - 93.

Motowidlo, Stephan J. and Walter C. Borman, "Relationships Between Military Morale, Motivation, Satisfaction, and Unit Effectiveness," Journal of Applied Psychology, vol. 63, no. 1, 1978, pp. 47 - 52.

Nadal, Anthony, COL, USA, US Army Leadership Action Planning Conference, Washington D.C., Interview, 12 February 1980.

Neal, Gilbert L., "Cost and Training Effectiveness Analysis," Educational Technology, March 1978, pp. 15 - 19.

Newstrom, John W., "Catch 22: The Problems of Incomplete Evaluation of Training," Training and Development Journal, November 1978, pp. 22 - 24.

Office of Naval Research Report 71-21, The Effect of Leadership Experience and Training in Structured Military Tasks -- A Test of the Contingency Model, Fred E. Fiedler and Louis S. Csoka, July 1971.

Parker, Tredway C., "Statistical Methods for Measuring Training Results," in Robert L. Craig (ed.), Training and Development Handbook, McGraw Hill, Inc., New York, 1976, pp. 19-1 - 19-23.

Pitts, John W., A Proposed Leadership Development Program for Company Grade Personnel of Line Combat Arms Units in the US Army, Master's Thesis, Massachusetts Institute of Technology, June 1976.

Raphael, Michael A. and Edwin E. Wagner, "Training Surveys Surveyed," Training and Development Journal, December 1972, pp. 10-14.

Rojas, Donald, Leadership Training and Development Activities, Paper presented at US Army Leadership Action Planning Conference, 11 February 1980.

Rush, Harold M.F., "The Behavioral Sciences in Training and Development," in Robert L. Craig (ed.) Training and Development Handbook, McGraw Hill, Inc., New York, 1976, pp. 8-3 - 8-26.

Simonson, Michael, "Attitude Measurement: Why and How," Educational Technology, September 1979, pp. 34 - 38.

Sims, Ronald C., "RETO, OE, and OECS -- Where Do They Stand?" OE Communique, Winter, 1980, p. 45.

Spencer, Lyle M., The Navy Leadership and Management Training Program: A Competency-Based Approach, Proceedings of Sixth Symposium, Psychology in the Department of Defense, April 1978.

Stern, George G., "Measuring Noncognitive Variables in Research on Teaching," in Nathaniel L. Gage (ed.), Handbook of Research on Teaching, Rand McNally and Co., Chicago, 1963, pp. 398 - 447.

Stinson, John E. and Lane Tracy, "Some Disturbing Characteristics of the LPC Score," Personnel Psychology, no. 27, 1974, pp. 447 - 485.

Stogdill, Ralph M., Handbook of Leadership, The Free Press, New York, 1974.

United States Department of the Air Force, Human Resources Laboratory, Contingency Approaches to Leadership: A Review and Synthesis, by William H. Hendrix, 1976.

------, Training Evaluation and Student Achievement Measurement: A Review of the Literature, by Brian A. Bergman and Arthur I. Siegel, 1972.

United States Department of the Army, "Consolidated Army War College Leadership Monograph," US Army Leadership Monograph Series # 1 - 5, US Army Administration Center, Fort Benjamin Harrison, Indiana, 1975.

------, Comparison of Three Experimental Learning Programs: SKIM, PET, L&MD, US Army Administration Center, Fort Benjamin Harrison, Indiana, 1975.

------, Final Report of the Military Personnel Management Study (Draft), US Army Administration Center, Fort Benjamin Harrison, Indiana, May 1979.

------, A Review of Education and Training for Officers, (5 Vols.), Headquarters, Department of the Army, Washington D.C., 1978.

------, The Army Environment of 1985 - 1995, US Army Srategic Studies Institute, Washington, D.C., 1978.

------, Leadership and Management Development Training Course Handbook, US Army Organizational Effectiveness Center and School, Fort Ord, California, 1979.

United States Department of the Army, Field Manual 22-100, How To Lead (Draft), Headquarters, Department of the Army, 1979.

------, Leader Development Plan, Office of the Deputy Chief of Staff for Personnel, Human Resources Directorate, 16 April 1980.

United States Marine Corps, Marine Corps Order 5390.2B, Leadership Training, Headquarters, US Marine Corps, Washington, D.C., 17 October 1979.

------, Leadership, Phase I, The Basic School, Quantico, Virginia, 1979.

------, The Military Professional: The Responsibility of Leadership, Command and Staff College, Quantico, Virginia, 1979.

------, Leadership, Noncommissioned Officers Academy, Quantico, Virginia, 1979.

United States Department of the Navy, OPNAVINST 5450.194, Chief of Naval Education and Training: Missions and Functions, Headquarters, Department of the Navy, Washington, D.C., 16 February 1977.

------, Leadership and Management Education and Training (LMET) Navy Training Plan (Draft), Headquarters, Department of the Navy, Washington, D.C., September 1978.

------, NAVPERS 1519A, Unrestricted Line Officers Career Guidebook, Headquarters, Department of the Navy, Washington, D.C., 1979.

------, Current Programs, US Navy Personnel Research and Development Center, San Diego, California, 1978.

------, NAVPERS 15892, The Officer Personnel Newsletter, Office of the Deputy Chief of Naval Operations (Manpower, Personnel, and Training), Washington, D.C., Fall 1979.

Vaill, Peter B., "Toward a Behavioral Description of High-Performing Systems," in Morgan W. McCall Jr. and Michael M. Lombardo (eds.), Leadership: Where Else Can We Go? Duke University Press, Durham, North Carolina, 1978, pp. 103 - 125.

Vroom, Victor H. and Philip W. Yetton, Leadership and Decision Making, University of Pitssburg Press, Pittsburg, Pennsylvania, 1973.

Wehrenberg, Stephen B., CWO, USCG, US Coast Guard Leadership and Management Staff, Yorktown, Virginia, Interview, 30 May 1980.

Winter, David G., An Introduction to LMET Theory and Research, McBer and Company, Boston, 8 August 1979.

Witt, William W., High Performing Units, US Army Training and Doctrine Command, Task Force Delta, Fort Monroe, Virginia, January 1979.

Wolfe, Joseph, "Evaluating the Training Effort," Training and Development Journal, May 1973, pp. 20 - 25.

INITIAL DISTRIBUTION LIST

		No. Copies
1.	Defense Technical Information Center Cameron Station Alexandria, Virginia 22314	2
2.	Library, Code 0142 Naval Postgraduate School Monterey, California 93940	2
3.	Defense Logistics Studies Information Exchange US Army Logistics Management Center Fort Lee, Virginia 23801	1
4.	Department Chairman, Code 54 Department of Administrative Sciences Naval Postgraduate School Monterey, California 93940	1
5.	Professor John D. Senger, Code 54Se Department of Administrative Science Naval Postgraduate School Monterey, California 93940	1
6.	Associate Professor Carson K. Eoyang, Code 54Eg Department of Administrative Science Naval Postgraduate School Monterey, California 93940	1
7.	CPT John E. Davies 90 Cardo Road Hamden, Connecticut 06517	2
8.	Commander USCG Leadership & Management Programs ATTN: CWO Stephen Wehrenberg USCG Reserve Training Center P.O. Box 18 Yorktown, Virginia 23690	1
9.	Commandant USA OEC&S ATTN: ATXW-RMA-TD (CPT Sims) Fort Ord, California 93941	1
10.	Commanding General US Army Training and Doctrine Command ATTN: ATTNG-COT (LTC d'Oronzio) Fort Monroe, Virginia 23651	1

11. Assistant for Analysis, Evaluation (NMPC-6c) 1
Human Resource Management & Personal Affairs Dept
Navy Military Personnel Command
Washington, D.C. 20370

12. Director, Human Resource Mgmt. Division (NMPC-62) 1
Human Resource Management & Personal Affairs Dept
Navy Military Personnel Command
Washington, D.C. 20370

13. Director for HRM Plans and Policy (OP-150) 1
Human Resource Management Division
Deputy Chief of Naval Operations
(Manpower, Personnel & Training)
Washington, D.C. 20370

14. Commanding Officer 1
Human Resource Management School
Naval Air Station Memphis
Millington, Tennessee 38054

15. Commanding Officer 1
Human Resource Management Center London
Box 23
FPO, New York 09510

16. Commanding Officer 1
Human Resource Management Center
5621-23 Tidewater Drive
Norfolk, Virginia 23509

17. Commanding Officer 1
Human Resource Management Center
Pearl Harbor, Hawaii 96860

18. Commanding Officer 1
Human Resource Management Center
Naval Training Center
San Diego, California 92133

19. Commanding Officer 1
Human Resource Management Center, Washington D.C.
Commonwealth Building, Room 1144
1300 Wilson Blvd.
Arlington, Virginia 22209