

TRAINING TRANSFER AND UTILIZATION:
AN EMPIRICAL INVESTIGATION INTO THE PERCEPTUAL EFFECTS
OF MIDDLE MANAGEMENT TRAINING IN AN ORGANIZATION

by

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(ABSTRACT)

Administration of educational curriculum beyond the traditional classroom are becoming an increasing concern for public and private sector organizations that offer formalized supervisory and management training. Training is expensive. Salaries of trainers, materials and equipment, and especially lost production are factors that go into the decision-making process when companies invest dollars into training employees.

The establishment of cost effectiveness in terms of whether or not training content transfers to the job is of vital concern. Studies of learning transfer are rare, but even rarer are long-term measures. This study empirically, measured learning transfer and utilization from Communication, Stress Management, and Team Building content seminar/workshops at both short and long-term intervals.

The study was divided into three distinct phases. The first phase was an experimental design using randomly selected treatment and control groups with an uncorrelated t-test used in the statistical treatment of group measures.

The second phase of the study utilized treatment group only comparison of matched item measures at six-week and one-year intervals. A correlated t-test was employed for statistical analysis.

The final phase of the study utilized external interviewing of supervisors of the managers who received the treatment. The supervisors were employed as external anchors to provide testimony as to the perceptual effects of learning transfer.

The study suggested that learning transfer and utilization did occur in all three area of intervention relevant to Phase I. Phase II suggested that long-term effects were present in two of the three interventions. External interviews in Phase III were not found to be highly contributing to the conformation of training transfer.

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DEDICATION

This research effort is dedicated to the significant others in my life, who are influential, but never more so than when love and encouragement were needed most. My loving wife

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CHAPTER I
INTRODUCTION

America's workers and managers have been returning to school for some time, but in the last decade these numbers have increased markedly. The variety of subjects studied have broadened and, most strikingly, American businesses have become their own education provider (Eurich, 1985). Business education programs are often referred to as Corporate Education, Human Resource Development (HRD), or Organizational Development Programs. The offered training is as wide and diverse as the organizations which sponsor it. Organizational training usually encompasses adult education programs. These programs are developed internally or externally from established policy; or through the services of a consultant, video or computer-based training, or classroom-based training. Classroom-based is defined as "types of 'formal' instruction that take place apart from the actual job environment" (Mangum, 1985). Training magazine (February, 1985 p. 72) defines organizational training as "all classroom and/or formal, individualized instruction, but excludes informal, unstructured, on-the-job training". Such training is usually non-traditional, and is offered at the expense of the sponsoring organization. Nationwide, annual costs of formal classroom training,

including expenses and lost wages, are sixty-billion (60) dollars (Johnson, 1985). As training costs and new market demands increase, trainers will be expected to handle various roles that include technique, design, planning, presentation, and evaluation.

Matching instruction to "actual needs" is no easy task, especially in large organizations where several thousand employees are channeled through training programs which range from "orientation" to "executive." It is for this reason that philosophical approaches to education dictate that some organizations have Training Coordinators, while others have full-fledged, and well funded training staffs replete with training professionals. Indeed, some companies have training programs while others have training policy which can serve to further complicate current and future organizational educational needs assessment and evaluation. This point is emphasized by management theorist Peter F. Drucker in a March 26, 1985 article in The Wall Street Journal in which he states:

...companies will have to both step up and considerably change their training. American business is already the country's largest educator. But most companies have training programs rather than training policy.

Few focus their training on the company's needs five years out or on their employees' aspirations. Fewer still have any idea what they are getting for all the money and effort they

spend on training, let alone what they should be getting. Yet training may already cost as much as health care for employees--perhaps more.

It is more than a mere illusion that as corporations struggle to meet ever-growing demands for highly trained (and retrained) workers; matching "actual needs" often falls victim to "assumed needs" and "complete training programs are often preached but seldom practiced" (Kilmann, 1984).

Part of a problem cited by Fiedler (1972) several years ago has apparently remained well into the 1980's. Fiedler concluded, "One of the most puzzling and intriguing problems in industrial and organizational psychology is the recurrent findings that managerial and leadership training appear to have no effect on organizational performance" (1972, p. 114). This is reinforced dramatically by Zemke and Gunkler (1985) who state:

...once again the laboratory has let us down. Not only is there little clear-cut evidence that doing particular things will help transfer learning to the job environment, there isn't even much consistent theory behind why transfer does and doesn't occur. We can't even find agreement about how to define "transfer of training." Some researchers want to restrict its meaning to something akin to response generalization--the occurrence of a discriminated (trained) response to stimuli different from those to which the response was trained. Others want "transfer" to refer only to the effects of prior learning on learning something new. And while it may make sense at times to measure transfer by measuring how readily something else is learned, it is the effects of training on performance that are of primary concern to trainers (p. 49).

The effects of training on performance have consistently been an obstacle, as cited by McKeen and Terry (1986), who submit that efforts to evaluate many training programs have failed to demonstrate any degree of long-range effectiveness. Indeed, Brandenburg (1982) surveyed training professionals from 33 organizations concerning the evaluation of activities and found that long-term data collection techniques were reported as seldom used.

Part of the reason for the lack of long range data was suggested in a study conducted by the American Society for Training and Development (ASTD). In a recent Training and Development Journal, Del Gaizo (1984) reported that one-third of the respondents surveyed said that evaluation and validation of training results were the hardest parts of their jobs. Such findings tend to reinforce an earlier problem concerning evaluation suggested by Hinrichs (1977). He states that training is a field filled with practitioners as opposed to trained psychologists. Current literature suggests that, whether trained psychologist or practitioner, difficulty of measuring training transfer would still prevail. Primarily, this is because the learning is almost always separate from the work environment (Robinson and Robinson, 1985). Many HRD practitioners are frustrated. While they have direct control over the learning experience, they have

little, if any, control over the work environment. The work environment is where any follow-up on behavioral changes that may result from training are likely to occur. Gaining access to work environments appears to be no easy task and the training community is stymied in attempting to monitor long range transfer. While reporting the results of a national survey of its readers, Zemke (1985) related that only slightly more than 18 percent of the training practitioners responding "focused their attention on following up after training had taken place to ensure that transfer occurred" (p. 106). Although the Zemke article did not report how many responded to his survey, it is clear from those who did that certain (apparently) inherent barriers may be preventing effective measurement of training transfer. Seventeen percent of the respondents revealed that their organizations were too small to justify the process and procedures, while 29 percent intimated that "management would never stand still for taking the time to follow the processes and procedures" (associated with the entire spectrum of training, including transfer).

A myriad of barriers get in the way of measuring the long-range effects of training on job performance. Robinson and Robinson (1985) point to what they call work environment barriers when referring to skill transfer in organizations.

They cite specific organizational barriers as:

"(1) the use of skills by learners has a punishing effect on them and/or is a very low priority; (2) many barriers, including lack of time, physical environment, procedures and policies, and lack of authority inhibit learners as they attempt to use the skills, and; (3) learners do not receive feedback about how their efforts impact upon end results at a unit, department or organizational level" (p. 83).

In addition to the organizational barriers, learner and boss of the learner barriers also prevent effective learning transfer and use. Learner barriers were identified as:

"(1) values and concepts taught are contrary to their personal values and their concepts of how the job should be performed and not feeling confident in their ability to successfully use the skills/behaviors on the job" (p. 83).

Boss barriers included:

"(1) not coaching learners on how to use the skills in specific on-the-job situations, even when the learners come to (their) manager for advice; (2) not providing reinforcement to learners when there was evidence that they used the skills, and (3) not using and/or supporting the use of skills absorbed by the learner in training" (p. 83).

The difficulties outlined above make it clear that a valuable study would be one that could make it possible to arrive at a single, integrated synthesis of factors that would confront each of the barriers associated with transfer research. But, determining the degree or extent of transfer of learning from an organizational training program is difficult. Perhaps Weick's (1983) suggestion concerning Communication research applies. He said what is required is

"an intensive case study of an organization that embodies the paradigm being advocated" (p. 14).

THE PROBLEM

Specific to long-term evaluation of training transfer, there is a need for a methodology that will empirically relate factors, both internal (the individual trained) and external (e.g., the organizational or boss barriers) with respect to measuring the degree of knowledge acquisition and transfer.

PURPOSE

This study asked the question: Can the perceptions of trainees in a middle management training program concerning knowledge acquisition, transfer and utilization in the work place, be confirmed by internal and/or external data?

HYPOTHESES

The study was divided into three distinct phases. Phase I: This was a survey of the managers trained and a control group six (6) weeks after classroom instruction. Phase II: This phase involved a follow-up survey of managers trained one-year after receiving training. Phase III: An external data collection was taken from interviews of the supervisors of the managers who received training.

The ensuing null hypotheses were tested in Phase I of the study:

1. There will be no significant difference between the

utilization scores on measures of Interpersonal Communication by Norfolk Naval Supply Center Middle Managers who receive in-house training in Interpersonal Communication and those who do not.

2. There will be no significant difference between the utilization scores on measures of Stress Management by Norfolk Naval Supply Center Managers who receive in-house training in Stress Management and those who do not.

3. Middle Managers at the Norfolk Naval Supply Center receiving in-house training will not score significantly different on utilization measures of Team-building than managers who do not receive training.

The following null hypotheses were tested in Phase II of the study:

1. Matched-respondent contrast scores of control group managers from survey items of Interpersonal Communication taken at six-week and one-year intervals will not differ significantly.

2. Matched-respondent contrast scores of control group managers from surveys of Stress Management taken at six-week and one-year intervals will not be significantly different.

3. Matched-respondent contrast scores of control group managers from surveys of Team-building taken at six-week and one-year intervals will not differ significantly.

The following research question was advanced in Phase III of this study:

1. Will external interviews of the managers of the managers trained in this study confirm or deny the internal perceptions of the trained managers?

SIGNIFICANCE

Evaluation studies of learning transfer have been noticeably lacking in long term data collection techniques. Many reasons have been advanced which prevent long-range studies from being conducted (e.g., the lack of access to effectively conduct follow-up studies; the absence of skilled researchers, and, a myriad of learner and organizational barriers).

This study tests the extent to which Middle Managers in a large civilian-government organization, over time, retained, transferred, and utilized concepts learned in training. Such evaluations are rare. Measuring what has been learned, retained, used, and to what degree would provide a contribution to educational research. This study would augment that body of knowledge by reducing the void concerning the evaluation of educational learning transfer and utilization.

DEFINITION OF TERMS

Certain terms will be used frequently throughout this study. Specific definitions utilized in this study are

provided here to assist the reader to better evaluate the research and its applications.

Classroom-based Training: types of "formal" instruction that take place apart from the actual job environment (Mangum, 1985).

Communication: a process in which one person stimulates meaning in the mind of or changes the behavior of another person either verbally or nonverbally.

Interpersonal Behavior: "the way each of us deals with other people on the job" (Buzzotta, 1986).

Knowledge: "consists of information, facts, and concepts that are directly attributable to social science research (i.e., education, psychology, sociology, anthropology, economics, and political science) and have been interpreted or otherwise ascribed with meaning. Common knowledge is excluded from this definition, not because it is an unimportant determinant of social action, but because it is of an entirely different character than scientific knowledge. Generalizations regarding its transfer and utilization may not directly apply to the transfer and utilization of scientific knowledge" (Love, 1985, p. 348).

Organizational Communication: "the primary vehicle by which leadership is activated, people are motivated and relationships are developed" (Randolph, 1985).

Organizational Development (OD): an intervention into public and private sector organizations, usually by individuals called "practitioners," who focus their efforts on the work process as well as individual and work group functions within an organization.

Organizational Training: adult education programs internally or externally developed through established policy, or through programs acquired through the services of a consultant, video or computer-based training, or classroom-based training.

Performance: a behavior which manifests itself either cognitively, or in behaviors, that can be measured or observed as a result of specific training interventions.

Stress: a human condition characteristically reflected in physical, emotional and mental exhaustion, job dissatisfaction, poor morale, job turnover and decreased performance.

Team-building: the embodiment of purpose to make policy and build purpose into an organizations's social structure; to infuse with meaning.

Training and Development: identifying, assessing--and through planned learning--helping develop the key competencies which enable individuals to perform current or future jobs (Training and Development Journal, June 1983; p. 14).

Transfer: "is the process of transmitting, conveying, disseminating, or otherwise communicating knowledge from the developer, producer, organizer, or interpreter of research to potential users " (Love, 1985, p. 348).

Use or Utilization: "the process of applying the knowledge or information received by a potential user toward the solution of a problem or the attainment of a goal, but also include the act of rejecting or ignoring the knowledge" (Love, 1985).

LIMITATIONS OF THE STUDY

The study is limited to Middle Management Training at the Naval Supply Center, Norfolk, Virginia.

SUMMARY AND OUTLINE OF SUCCEEDING CHAPTERS

Organizational training programs in America represent a diverse and complex process affecting many people from all walks of life. The diversity is seen not only in the kinds of programs, courses, and priorities in the adult level of education, but also in the kinds of people who provide the instruction and evaluate training. Trainers represent a wide range of teaching and non-teaching, evaluation and non-evaluation backgrounds and differ in their experience in each area. More criticism has been launched against evaluation practices and procedures than against instruction; yet there is a dependency, one upon the other.

The purpose of this study was to bring some level of congruency between instruction and evaluation, with the central focus on evaluation. Many organizational training programs have been evaluated in the past but have often yielded to criticisms because they did not go far enough to validate results. This study empirically investigates the results of a systematically planned and presented middle manager training program with careful emphasis on evaluating transfer of learning and subsequent utilization into the organizational work-environment.

The review of the literature relevant to the ideas and issues surrounding training in organizations is discussed in Chapter II. The approach used in this chapter is to (a) describe the nature of content variables used in training instruction; (b) depict the complexities associated with organizational development as they relate to training in organizations; (c) discuss how researchers view the concepts of knowledge, transfer, and utilization, and; (d) characterize the problems associated with evaluations of organizational training programs.

The methodology used in this study is discussed in Chapter III. Included in this chapter are the design of the study (population and sample), the instruments used, data collection techniques, and the analysis of the data.

The findings of the study along with an analysis of the data is presented in Chapter IV.

A summary of the entire study, conclusions, recommendations, and speculations and implications based upon the study are included in Chapter V.

CHAPTER II

LITERATURE REVIEW

INTRODUCTION

The purpose of this chapter is to review the literature relevant to the treatment of three different types of training instruction as independent variables in an empirical study investigating training transfer.

It is important for the reader of this report to have some degree of insight concerning the rationale behind the course offerings which were planned and implemented through the research effort. The literature is illustrative of the reasons why the training modules in this study were selected over other types of management content curriculum.

The discussion will be divided into six distinct areas:

1. There will be a review of literature from organizational communication submitting a rationale for offering such training in organizations.

2. This section involves a literature review in the area of Team-building in organizations with an emphasis on participatory management (congruent with managerial theory and trends of the 1980's) and a justification for offering such training in organizations.

3. A review of literature in the area of Stress and Stress Management and the importance of offering such

educational treatment to leaders in organizations is advanced.

4. The organizational development section will offer a rationale for establishing the items discussed in the first three sections. This rationale will test the dependent variables.

5. This section will review literature relevant to knowledge, transfer, and utilization; the central focus of the study.

6. The final section will provide a review of literature concerning evaluation of training to demonstrate the complexities surrounding the measurement of transfer from training to the work-place.

COMMUNICATION IN ORGANIZATIONS

The study of organizational communication has been described by Bernstein (1976) as "a discipline in search of a domain". If this characterization were to be taken seriously, it would take an enormous amount of time to agree on the boundaries of the domain and on those disciplines that are most likely to give substance to it. While that is one way to develop a research agenda, it implies there is one domain when in fact there are many (Weick, 1983). Indeed, each type of organization, whether public or private, is a unique domain unto itself; each offering the opportunity for endless comparisons. For example, it would

be possible to compare factors such as social control of subordinates, organizational levels of authority, working conditions, organization size, uncertainty, boundary-spanning roles, and occupational communities. These and other dimensions for comparison offer the researcher a menu of agendas as they relate to communication in the organization (as well as other areas of inquiry).

In light of the complexities associated with large organizations, research findings have consistently documented the value of communication, showing a direct correlation between an effective communication system and high overall organizational performance. Communication is essential to an organization. However, despite the success of some corporate communication programs and many space-age communication victories, we still witness the moral decay of our government and political institutions (Goldhaber, 1980).

The most convincing reason why this decay is occurring may be the distinct shift from an industrial to an informational society. This was foreshadowed by writers such as Randolph and Finch (1977) who said that in addition to organizational structure, the technologies (e.g., computers) in organizations influence the communications which emerge. The point is further conceptualized by Goldhaber (1980) who suggests that "advances in technological communications apparently are not positively

related to successful interpersonal (types of) communication. In fact, the relationship between the two may be inverse" (p. 3). In other words, as technology becomes more routine, the frequency of (interpersonal) communication tends to decrease (Randolph, 1985). The point is dramatically emphasized by the distinguished professor of management, Frederick Herzberg (1986) who notes that, as more and more people are working in information-processing and service industries, using more and more technologies, they are "becoming psychologically trapped in abstract technological labor" (p. 19). Herzberg suggests that "in the decade of the 1980's, we believe in 'holy technology,' but that we have ended up with a 'passionless' society".

Whether industrial or technological, ineffective communication in organizations is not a new issue. In the 1950's, the presidents of the top one hundred corporations identified their major communication problems as follows: inadequate use of communication media, lack of communicative ability in management personnel, withholding of information from subordinates by management, and little opportunity for upward communication. More recently, in a major study of sixteen organizations, Goldhaber (1977; cited in Goldhaber, 1980, p. 4) identified the following organizational communication problems: employees receive insufficient information about their jobs and organizations;

management doesn't follow up on employee messages; messages are sent too early or too late to be of use; the grapevine supplements the void filled by the lack of openness, candor, and visibility of top management; impersonal channels substitute for face-to-face contact; and lack of employee input into decisions that affect them is common.

What is startling about these findings and alluded to by Goldhaber, "is not so much their indication of faulty communication systems as their striking similarity to the problems identified by corporate presidents over twenty years ago" (p. 4).

Even more alarming is that despite the reports by America's leading organizational experts (who advocate new approaches to structuring organizations and managing people) most organizations today rigidly adhere to the military model of structuring the organization--with control directed from the top of the hierarchy (see, Putnam and Pancanowsky, 1983). This particularly confounds many managers who attend training workshops and seminars on communication, motivation, group dynamics, or organizational development topics. Goldhaber (1980) suggests that:

...after receiving training, managers return to their jobs claiming to be new people with a changed outlook on life. Only a few weeks or even days are needed for them to return to their old ways of management based on carrot-and-stick philosophies of dealing with people (p. 8).

All of this implies that training (e.g., in communication) may be a waste of an organization's time and dollars. Such an idea is self-defeating and moreover, is contradictory to the huge amount of dollars that are being funneled into training in organizations (see Chapter 1).

The need for better communication in organizations seems to be in place, but a void remains. Existing approaches to studying organizations tell us to look at things such as size, technology, formalization, or environment to explain organizational outcomes (e.g., Scott, 1977). What generally results is that the observer ends up looking more at the places where people reside, than the people themselves. While this may be an over simplification, an interpretive approach toward conducting communication research might better help us to ignore labels (cited above) and to look instead for answers to research problems in more micro, rather than macro, methods of inquiry. Conventional wisdom is that big outcomes, such as an intricately divided structure, are generated by equally big antecedents (Weick, 1983). A departure from this could happen by developing a research task which could decouple the conceptual framework of organizational training and research agendas. It could demonstrate that small events can also have disproportionately large effects (through the organization). Carefully monitored, documented,

qualitative, and quantitative supervisory and management training programs could be the key.

In order to understand communication in organizations, as well as its potential impact as a topic for training managers in an organization; it is important to also understand that an organization is a living open system connected by the flow of information between and among people who occupy various roles and positions.

Perceptions About Communication In Organizations

Several authors have attempted to offer their perceptions of the limits in organizational communication, which is a relatively new discipline of study. Reading and Sanborn (1964) defined organizational communication as the sending and receiving of information within a complex organization. Their perception of the field includes internal communication, human relations, management-union relations, horizontal communication, and communication program evaluation. Kantz and Kahn (1966) perceived organizational communication as the flow of information--the exchange of information and the transmission of meaning--within the organization. Zelko and Dance (1965) viewed organizational communication the "skills" of communicating in business (speech making, listening, interviewing, counseling, conferences, spelling, and persuading). They perceived organizational communication as an interdependent

system that includes both internal (upward, downward, and horizontal) and external (public relations, sales and advertising) communications. Lesikar (1972) supported Zelko and Dance, but added a third dimension, personal communication (the informal exchange of information and feelings among organizational members).

What is clear in the literature on organizational communication is that it is crowded with conceptual disparity. These conceptual differences were illustrated by Downs and Larimer (1973) who found no less than twenty-one areas of subject matter that were being taught in organizational communication courses. Another investigator (Rogers, cited in Goldharber, 1980, p. 13) later identified thirty-nine major topic areas covered in organizational communication textbooks published after 1972. It is small wonder that Bernstien (1976) referred to organizational communication as "discipline in search of a domain."

Despite the varying viewpoints concerning organizational communication; certain commonalities tend to generate some central points-of-focus in that:

(1) organizational communication occurs within a complex open system which is influenced by and influences its environment; (2) organizational communication involves messages and their flow, purpose, direction, and media, and

that; (3) organizational communication involves people and their attitudes, feelings, relationships, and skills, and skills.

Communication In Organizations In Context

In order to better understand the generalized approaches for defining organizational communication, it is important to be aware that organizational communication occurs within a context. Context may be viewed as organizational structure, technology, and past history (O'Reilly and Pondy, 1979). Each of the contexts has some influence on communication in an organization; this would have bearing on the type of communication training an organization might require.

The first contextual view of communication is structure. The structure of an organization directly influences its intended communications. People who are grouped into one department are thought to have a need to communicate more closely than are people in different departments (sometimes referred to as proximity). However, research by Allen and Cohen (1969) has demonstrated that the organization structure may not coincide very well with the actual communication networks that emerge.

As previously cited, the second context, technology, influences the communications that emerge in an

organization. As technology becomes more routine, the frequency of communication tends to decrease.

A third, and final context is historical. People in organizations have had an opportunity to interact over time. They have become accustomed to power and status differences, and have learned about the norms and incentives in an organization. Thus, past communication experiences in the organization tend to dictate present and future communication experiences. As a result, the pattern of communication in any organization develops over a period of time, and it will continue to evolve into the future.

Because of these organizational contexts, attempts to change or alter the ways in which patterns of communication in an organization are established is difficult. Communication is very process oriented and many different static models have appeared in the literature. However, models are only representations of this very dynamic and complex process. In terms of organizational communication, it must be remembered that "communications are the primary vehicle by which leadership is activated, people are motivated and relationships are developed" (Randolph, 1985). Which is precisely why many organizations are intent on offering Human Resource Training for their managers.

In a more scholarly view of the complexities of communication in organizations, Deetz and Kersten (1983)

pointed to the relation between work and communication in an organization as related to structure. They argue that:

Relations between deep and surface structure are maintained in a organization through two interacting processes: productive (work) and social (communication). The first process includes the purposeful activity of work itself, that is people working to produce something. It also involves the means and methods of production, that is, the materials, instruments, and facilities as well as the skills, procedures, and techniques through which production takes place. The work process itself and the methods of production create relationships between people, specifically relations of power. Ownership of the means of production enables a person to direct, control, or sabotage the work process.

Through the second process, communication, organizational members develop norms, values, meanings, that is, a certain consciousness that makes the organization and their place in it understandable and meaningful. Communication, like work, has relational impact because norms, values, and roles situate people in relation to one another; they define, interpret, and limit the ways in which people deal with each other.

People working and communicating with each other represents a simple, yet important variable when considering the type of training which might be most effective in organizations. Indeed, McGraw-Hill's Professional Trainers newsletter, in the Spring of 1986, reported that out of the ten "most requested" training programs; Interpersonal Communication was listed among the top three (as was Team-building, covered later in this review). At about the same time, Training magazine (July, 1986) reported that Communication was at the top of the list in a survey conducted among America's Fortune 500 companies.

Communication and the Human Relations Perspective

Interpersonal communication is widely considered, and often referred to as a Human Relations concept, or in trainer's jargon "people skills." As previously indicated, an organization is considered an open-system; and within that system, communication is treated by practitioners and consultants as a social sub-system within an organization. According to Gallessich (1983) human relations concepts can serve as a guide to in-depth studies of the social subsystems in an organization. She indicates that "management and leadership are central aspects of this subsystem and that intragroup and intergroup processes are also important in understanding organizations" (p. 68). Schein (1969) identified six types of group processes that are crucial to organizational productivity: (1) development of norms, (2) communications, (3) defining members roles and functions, (4) problem solving and decision making, (5) intergroup cooperation and competition, and (6) handling conflict and stress. Not only then are the social subsystems in organizations an effective way to monitor and understand the overall organization, but they are the means by which human relations training programs can be strategized.

Relevant to Naval Supply Center study, communication processes serve to offer a fertile source of data for

understanding any changes in managerial behavior within that organization. What is needed is a set of micro-knowledge that can give coherence and demonstrate casual linkages to training and behavioral change in the ways in which managers change or adapt their methods of communicating after a training intervention. Yet, despite repeated appeals for contextual communication inquiry and sensitivity to context (e.g. Knorr, 1979, cited in Weick, 1983) no one is exactly certain what is being requested or how to produce it. Part of the reason for this, according to Weick (1983), is that "...traditionally, investigators have had trouble linking cognition and action" (p. 17). The communication intervention in this study was designed to confront the issue of cognition and action (application, use, etc.).

TEAM-BUILDING

Another area of Human Resource training in organizations has to do with cooperation, collaboration, and communication among groups (as opposed to interpersonal, one-to-one communication).

Groups are the building blocks of organizations. They enable individuals to transcend their own limitations of both body and mind in order to define and solve the problems of nature and civilization (Kilmann, 1984). The conventional view of the design and management of organizations is derived from research in the functionalist

paradigm (Smircich, 1984). Such work seeks to articulate patterns of contingent relationships among variables contributing to organizational survival. From this perspective human beings are adaptive agents, responding to forces in their environment as well as to the imperatives of their own physiological and psychological needs.

Current literature is replete with such research topics as organization-environment relations (e.g. Lawrence and Lorch, 1967, Thompson, 1967), strategy-structure (e.g. Chandler, 1962; Miles and Snow, 1978), technology-structure (e.g. Perrow, 1967; Woodward, 1965), and person-organization (Hertzberg, 1966; Maslow, 1971). Each of these research efforts has yielded observations and prescriptions about the way key variables are interrelated and how they should be managed for effective organizational performance. But the questions of, "What are the variables"?, and "What is performance?" remain. The literature itself indicates that theory and application are two distinct images with one trying to mirror the other. Yet, the vision of good management remains illusive. Contemporary theory suggests that managers in organizations may have been the problem all along, as described by Dyer (1977):

It is not infrequent to find that the biggest problem that interferes with a working unit functioning effectively as a team is the boss or manager. If the boss is unaware of this, the situation becomes especially difficult, since unit

members are often unwilling to confront the boss with the disruptive consequences of his or her own managerial behavior. If this issue is avoided during (the) team-building session, all other actions will probably be seen as mere window dressing, for the main issue has been carefully sidestepped (pp. 125-126).

"Team-building" appears to be the conceptual answer of the '80s, but the question remains: Does it work? The answer is universally difficult to provide. This is because one of the greatest problems faced in attempting to empirically investigate the relationship between individual behavior and the properties of the situation experienced by organizational members is the enormous complexity of the environment itself (Sells, 1963). Additionally, many criticisms have been leveled against organizational development strategists (trainers/consultants). They sometimes become so preoccupied with interpersonal processes that they neglect the relations between these processes and areas such as budgets, administration, and technology (Margulies and Raia, 1972). Their interventions are typically piecemeal responses to systemic illnesses and do little to remedy problems (Burke, 1980). They have been accused of aiding managers in exploiting staff (Friedlander and Brown, 1974; Walton and Warrick, 1973). Consequently, a primary focus in the study of situational influences on behavior has been the development of a conceptual framework

capable of reducing the infinite number of potentially relevant environmental dimensions to a theoretically manageable and empirically measurable few (Michaelson, 1973).

In-house training in team-building is an area which can not only teach concepts, but can also produce measurable results (e.g., Johnson, 1986). Yet, research of this type is often confounded by the fact that "team-building" as a concept is nebulous. At best, the idea of building a 'team' is a metaphor of performance and is probably best understood as a symbolic process with important expressive functions as well as instrumental ones (see Burke, 1969a, and; Goffman, 1957). Moreover, team-building is an extension of the early work of Litwin and Stringer (1966) and Litwin (1968), who found in an experimental study that the kind of "organizational climate" experienced by individuals over time produced striking differences in both the relative and absolute levels of their basic motivational needs.

In reviewing the literature relevant to team-building, a major difficulty is separating team concepts from other terms like, "climate," and "communication." These concepts are interrelated. That is, one must be skilled in communication in order to implement an effective team-building program. Likewise, an effective team-building

program is likely to produce a more positive climate in, or among, an organization's members.

Climate-building and team-building are in reality, managerial tools (dependent on effective communication) and strategic activities devoted to bringing about a shared vision and shared interpretations of experience, which convey who we are and who we are not (Smircich, 1983). An understanding of this organizational strategy can provide executives a means of referring to and promulgating particular visions of organizational reality. This view is foreshadowed by Barnard (1938) and Selznick (1957) who argued that the function of institutional leaders is the embodiment of purpose, not only to make policy, but to build purpose into an organization's social structure and to infuse it with meaning. The concept of management of meaning is being developed further by a number of theorists (e.g. Davis, 1982; Gadalla & Cooper, 1978; Peters, 1978; Pfeffer, 1981a; Pondy, 1976; Sheldon, 1980; Smircich & Morgan, 1982).

Organizational researchers have recently emphasized the symbolic aspects of management. Pfeffer (1981a), for example, says that management is, in fact, a "symbolic action" and that the critical administrative activity involves the "construction and maintenance of systems of shared meanings." Similarly, Pondy (1978, p.94) argues that

"the effectiveness of a leader lies in his ability to make activity meaningful for those in his role set--not to change behaviors, but to give others a sense of understanding what they are doing." Management of meaning and its relation to team-building is currently being reflected in a theory loosely linked in an interactional system which binds members of an organization through normative rather than bureaucratic processes. While the concept is not new (e.g. Etzioni, 1961), such organizational behavior is labeled "Type Z". According to Ouchi (1981), Type Z is a strong normative system from which organizational members derive a sense of identity.

In a Type Z organization, which is a hybrid of American and Japanese management styles, network values permeate the whole organization as though it were a large family, even though hierarchies persist. Whether a family, group, or team; the idea behind team-building is that leaders establish goals and provide a meaningful image or a symbolic reality that is fulfilled through the action of those directly involved--"a system of shared meanings or collective ways of thinking that actualize the continued sense of organization" (Smircich, 1983; p. 235). The sense of action as viewed by Parr (cited in Johnson, 1986; p. 48) suggests that to be effective (in team-building), an organization must "...align employees so that everyone is

going in the same direction." He believes that this alignment occurs when management emphasizes personal performance and allows employees to fulfill themselves in their jobs. This emphasis, suggests Parr (1986), is the key to the team-development process.

The team-concept then, is a strategy that organizations can use as a tool of management. Although empirical investigations by their very nature appear to be limited in scope, team-building has been successfully utilized by organizations such as Mary Kay Cosmetics and several Japanese auto makers. But there are few corresponding examples that suggests team-building will work in other more autocratically climated organizations.

This is because many organizations adhere to what is referred to as "military-type structure" (Johnson, 1986), which, of course, is labeled authoritarian by management teachers and scholars. If team-building training were attempted, the issue would become one of validating transfer and use back in the work-place. Carefully planned and monitored research and evaluation can satisfy many of the concerns encompassing organizational intervention into team-building.

STRESS MANAGEMENT

In recent years, popular professional and scholarly journals and periodicals have carried a significant number

of articles concerning a phenomenon that seems to be growing among American supervisors, managers, and executives. The various outcomes of this phenomenon are characteristically reflected in physical, emotional and mental exhaustion, job dissatisfaction, poor morale, job turnover and decreased performance. The causes of this phenomenon have been associated with the term "burnout." According to Cunningham, (1982) this so-called burnout phenomenon has received so much interest and attention among both practitioners and scholars that many people are wondering if it is just in vogue as a stylish fad or really a significant problem which has begun to have profound influences on managers and administrators.

LeRoy Spanoil has stated, "Part of the problem (of burnout) lies beyond the individual, in inadequate professional training, poor organizational structures, and supervisors who burnout themselves. It lies in the lack of career ladders with people locked into a limited range or income potential and having few opportunities to participate in decision making" (Spanoil and Caputo, 1979). Vaurus (1978) suggests that lack of participation in organizational decision making is the number one contributor to stress. Cook (1979) states that the major causes of low morale and burnout are a lack of positive administrative leadership, administrative concern, and personal interaction, as well as

a lack of opportunity for input into decision making and for participation in professional growth activities.

Recently, Burke (1980) found nine items which related positively to job satisfaction and burnout. Some represented a lack of organizational support to an individual on the job (e.g. lack of information about job duties, promotional opportunities, standing with one's own boss, lack of information needed to do the job properly). Others conveyed a sense of powerlessness or lack of control over the work situation (e.g. too little job authority, little influence over decisions that affect one). Burke (1980) concluded that it would be in everyone's best interest to decrease process and structure pressures that interfere with individual satisfaction and organizational performance and increase process and structural pressures that facilitate individual satisfaction and growth and organizational effectiveness.

Bredemeier (1979) identified role strain and status as major causes of stress. Role strain was defined as being exposed to more legitimate demands from one's organization than one has the time, energy, or resources to meet. According to Dunham (1976), there are two main types of common burnout responses among persons who have been exposed to excessive stress. The first is frustration, and is associated with headaches, stomach upsets, sleep

disturbances, hypertension and body rashes and in prolonged cases, depressive illness. The second is anxiety, and is associated with feelings of inadequacy, loss of confidence, confusion in thinking, and occasionally panic. Dunham (1976) further argued that absenteeism, truancy, leaving professions, and early retirement are forms of withdrawal associated with situations which become too stressful to tolerate.

Masloch (1976, 1977), in one of the most comprehensive studies of the dynamics of burnout, observed two-hundred professionals at work and collected extensive data on ways other than physical symptoms, that burnout manifests itself. Masloch (1976, 1977) found that those in the service professions tend to cope with burnout by a form of distancing and loss of concern for people. They recast situations that may have occurred in more intellectual and less personal terms and drew sharp distinctions between job and personal life. Another form of distancing identified by Masloch (1976, 1977) was the concept of "going by the book" or standard operating procedure was used rather than dealing with the unique factors of the situation.

It has been found that when stress, anxiety and burnout arise, administrators and supervisors are prone to see the problem in terms of people who are not doing their job well, rather than of shortcomings in the institution itself--for

which they might be implicated (Masloch, 1977). Managers and supervisors take the classical "blame the victim approach." They assume that the stress and anxieties are caused by errors, weaknesses, faulty judgments or laziness on the part of the employee, and that a major aspect of their job as an administrator is to get the employees to improve their job performance or to get better employees. This administrative attitude serves to further compound the burnout phenomena (Masloch, 1977).

Experts tend to believe that burnout can be reduced or even eliminated because most of its causes are rooted, not in the permanent traits of people, but in specific social and situational factors within both themselves and their organizations which can be changed (Freudenberger, 1975; Halprin and Burns, 1974; Gibb, 1978).

Stress and the Human Relations Perspective

As the pervious section has noted, managers and workers in organizations must cope with certain uniquely stressful conditions. The focus of stress research is usually on individual, rather than organizational health. Individual health is, of course, related to organizational health and development. For example, when managers are chronically ill or powerless, subordinates are likely to be infected with feelings of depression and helplessness. Subordinates themselves become highly stressed and demonstrate "burnout"

symptoms, including emotional and physical exhaustion, negative attitudes, and lowered self-esteem (Dogulas, 1977; McGrath, 1976).

Traditional concepts of the professional role (e.g., managers) provided rules of practice that constructed an "armor," enabling professionals to maintain social and psychological distance. This "armor," it was believed, protected professionals against stress and burnout. Subsequently, however, by creating the classic psychological detachment (also called depersonalization) it caused many managers to lose their effectiveness. Efforts to restore leader effectiveness have fallen to the theoretical application of concepts in the human relations domain, primarily in the improvement of organizational climates (see previous section on team-building). These perspectives hold that organizations evolve unique and pervasive properties that exert control over workers' attitudes and behaviors (Taylor and Bowers, 1972).

ORGANIZATIONAL DEVELOPMENT INTERVENTION

The first three sections of this review have focused on human relations aspects in relation to organizational development. Organizational Development (OD) practitioners focus attention on the work process, the individual, and work group functions within an organization. Organizational Development efforts, through Human Resource Development

(HRD) training programs, can help individuals and organizations to avoid conditions conducive to poor managerial communication, negative group dynamics, and burnout.

Fullan, Milles and Taylor (1980) after an extensive review of OD efforts in education summarized OD in an aggregate manner to include:

...planned change; long range; organizational improvement in problem solving, communication, collaboration, participation, trust and uncovering and confronting conflict; a focus on human processes and techno-structural factors in order to improve both task accomplishment and the quality of life of individuals; assistance of a change agent or catalyst; use of behavioral science techniques to gather valid data in a reflexive, self-analytic fashion; and direct participation in organization study, diagnosis and change (pp. 125-126).

The role of HRD staff-personnel, or training departments is generally believed to be an effective strategy for minimizing social-emotional diseases within organizations. Schmuck (1977) states that although group process and procedures often obstruct the full use of human potential and create conflict and stress, they can, if coordinated through the application of OD strategy, allow the release of latent energy needed for responsiveness, creativity, and physical, emotional and mental health. Organizational interventions, however, vary greatly not only in their focuses but in their conceptual bases and methods.

Major Organizational Domains and Concepts

Historically, organizational interventions began with the advent of machines, and the first organizational consultants conceptualized the new industries as work machines. Their focus was the technological domain. Their task was to find the work procedures and equipment with the most favorable input/output ratios.

Another early group of interventionist also viewed organizations as machines, but their area of interest was the structure through which labor was divided and supervised. They were concerned with such issues as lines of authority, spans of control, and the proper distribution of tasks. The assumption was that rational assignments of responsibility and authority would increase organizational productivity. In many ways such interventions have not changed because organizational consultants, both internal and external, continue to help administrators establish rational lines of authority and work assignments.

"Since the discovery over five decades ago that productivity can be increased by satisfying workers' social and psychological needs, organizations have increasingly turned to the managerial and human relations domain" (Gallessich, 1983; p. 199). For instance, training programs have been designed to assist managers to reconcile organizational and human needs by expanding their

understanding of motivation and managerial theories.

Managers may also expand their leadership range and make more discriminating choices of which style to use in various situations.

Organizational Education and Training Approaches

Teaching and training are the most common of all organizational interventions. As defined in this study, the education and training models are seen as prearranged and organized, in contrast to impromptu educational and training activities that are frequently incidental (without a specific OD strategy) to many organizations. Many models of training are information-centered and emphasize the dissemination of concepts, information, and skills.

Several factors contribute to the demand for educational and training activities in organizations. On-going training activities are necessary for many organizations to respond to changes in technology, to matriculate new employees into the system, or to provide special training for members who move into middle management positions because these persons are often ill-prepared for administrative responsibilities. Additionally, some professional staff members often must update competencies.

Organizations use a variety of training mechanisms. They provide informal, on-the-job training, or in-house seminars and workshops. Larger organizations also provide financial

support so that their staff can attend outside training programs, such as those offered by universities, professional organizations, or consulting firms. The primary focus of education and training is on the dissemination of the trainer or consultant's specialized information or skills. Practices usually include seminars and workshops that provide training from a number of sources.

Education and Training Conceptualized

Education and training models usually (but not always) conceptualize problems in terms of "deficits" in knowledge and skills (Gallessich, 1983). The terminal goal is to provide whatever information, knowledge, or skills are needed. The strategy is, of course, educational, and is based on the assumptions that: (1) cognitive processes will bring about needed changes in the trainee's performance, (2) trainees have the necessary ability and motivation to learn new concepts, attitudes, or skills and apply them in their jobs, (3) the organization will support the acquisition and incorporation of the new technology, and (4) ultimately the organization will become more effective (Laird, 1978; Benne, Bradford, Gibb, and Lippitt, 1975). These assumptions are based on the theory that an organization is an open system, continuously interacting with and influenced by a rapidly changing environment and that adaptation and development

must also be continuous. While the systems theory is but one rationale for educational training there are probably as many approaches to the design, development and delivery of training as there are people designing, developing and conducting training (Zemke, 1985). One thing certain is that continuous educational training can be the means by which organizations prevent arrested development of employees (Gallessich, 1983).

The trend in training is the so-called "systems approach" (see Zemke, 1985; Goldstein, 1980; McGehee and Thayer, 1961). The systems approach--sometimes referred to as the "Instructional Systems Development (ISD) model"-- usually includes a needs assessment, specification of objectives, creation of unique learning experiences, feedback loops, and coordination with all parts of the organization (Goldstein, 1980). Evaluation of training in organizations is progressing from simple methods such as use of anecdotal reactions of trainers and trainees to methods of greater precision and complexity. Evaluations often include measures of several outcomes taken on a temporal continuum before, during, and after training to provide feedback loops for continuous modification of the instructional system. Evaluation designs are constructed to gage the impact of the instruction on the learner and on the organization (Gallessich, 1983).

Educational Training Methods

A wide range of educational and training methods are available. Each offers relative advantages for certain learning objectives. Many designs utilize several of these methods. The methods employed by the training designs in this study are noted by an asterisk (*) preceding the number of the method listed.

*1. Lectures. For most training objectives, lectures are the most effective means of presenting the initial theoretical framework and for conveying essential information and illustrations. Lectures are often referred to as "cognitive maps" and probably are the most frequently used means of information dissemination. Lecture is used extensively in training seminars and workshops because of tight time-lines.

*2. Media (Film and videotapes). Some individuals learn best through visual stimulation. Media is becoming a more oft used strategy for educational intervention.

3. Interactive/Programed. Recently "interactive videos" and computerized instructional programs have appeared on the market. Videos allow a facilitator (not necessarily a trainer) to show specific segments of a video tape while the trainees respond to directions from the tape. Computer programs permit individual self-paced learning.

*4. Materials. Readings and programmed materials with self-guiding instructions can be helpful as alternatives or supplements to lectures.

*5. Structured Laboratory Experiences. Acquisition of new behaviors is greatly facilitated by simulations in which trainees learn new skills through experiences. Such experiences range from demonstrations, role-playing, and game-type exercises. Laboratory experiences are the strategies trainers use to offset apprehensions associated with utilizing new methods or skills.

*6. Small-group Discussions. Discussions are usually incorporated after lecturing to assist trainees to assimilate new information and to relate it to their work situations. Group discussions also provide a means by which trainees can form networks in their organization.

*7. Behavioral Modeling. A training method that systematically integrates the principles of observation, modeling, and vicarious reinforcement can be used to teach complex skills (Goldstein and Sorcher, 1974). Trainees are introduced to new concepts. Next, they observe a model (either live or on tape) applying the concepts. Then, they role-play application of the concepts.

*8. Measurement and Feedback. Trainees' learning can be measured through tests, surveys, or live or video-taped observations and then fed back to guide trainers in planning

future activities. Such measures are usually administered during, or immediately after training sessions, and are classified as "Program Quality" questionnaires. These should not be confused with long-term evaluations.

Educational training methods are important in this study because they constituted the primary strategies for knowledge dissemination and subsequent potential for transfer of seminar and workshop learning to work settings.

KNOWLEDGE, TRANSFER, AND UTILIZATION

In order to use knowledge one must have a means for acquiring it. To pursue a study about utilization of anything implies genesis of an idea or concept. Thus when considering the entire notion of using, transferring, and/or applying knowledge; each of these concepts in and of themselves need conceptualized. For example, what is knowledge? How do we know when a given individual has knowledge? And; if they have knowledge, will they use it?

Conceptualization of knowledge, its transfer into daily life or to the work place are viewed dimensionally by a variety of researchers. These approaches to conceptualizing knowledge, transfer, and utilization perhaps can best be conceptualized if they are reviewed definitionally. From that framework will evolve some insight into the elements of focus for this study.

Conceptions of Knowledge

Denotatively, the Random House Dictionary cites knowledge as "that which is or may be known; information and the body of truths or facts accumulated by mankind in the course of time." Yet, it appears that those who write about "information" and "body of truths" view the terms as mutually exclusive. For example, Zaltman (1982) differentiates knowledge from data and information. Data, for example, could include statistics on the number of persons trained in team-building in an organization; but information refers to the meaning given to or inferred from those statistics (e.g., incidence of team-building practices have increased). If the information (meaning) is believed by someone, then it is knowledge. Churchman (cited in Machlup, 1980) considers information to be raw data and knowledge to be interpreted data. It should be noted that Machlup (1980) formulated his views from an economic perspective and focused his study of knowledge and knowledge production on "anything that is known by somebody" (p.7). He considered knowledge production to be "any activity by which someone learns of something he or she has not known before" (p. 7). Machlup was particularly concerned with "such types of knowledge as may be regarded as investments in the sense that they will pay off in the future through increased productivity" (p. 6). A philosophy which is congruent with

the primary focus of proving that training transfer and utilization by adults in a large organizational setting is well worth the dollars invested.

While others have written about knowledge, it is clear from the research that: "knowledge whose transfer and use has been studied, the term can refer to any information of any degree of complexity or interpretative meaning" (Love, 1985; p. 348). This has ranged from children's achievement test scores generated by a school testing program (e.g. David, 1978; Kennedy, Apling, and Neumann, 1980), to complex theories of organizational development (e.g. Schmuck, 1972), and even to science itself (Ziman, 1968). Thus, it is apparent that several concepts of "knowledge" are grouped under the same umbrella. The distinction that may have the greatest implications for synthesizing and understanding research findings is that between relatively raw information and interpreted knowledge (Love, 1985). He concludes that:

"This is true, not simply because the knowledge is different, but because this distinction may imply a different transfer mechanism, a different relationship between knowledge generator and user, and a different context in which the potential user is functioning p. 342)."

Love's (1985; p. 341) review of literature pertaining to knowledge, credits Havelock (1969) as having the most thorough and thoughtful treatment of the concepts involved with defining knowledge. In developing a model of the

social system of knowledge transfer, Havelock (1969) considered the range of phenomena that might deserve to be labeled "knowledge." Havelock's framework included three "message types": (a) basic science knowledge (the theory, data, and methods of science, especially social science), (b) applied research and development (that knowledge based on the scientific method and produced by people with scientific training, oriented toward practice, but not quite ready for unrestricted use), and (c) practice knowledge (the knowledge that is most recent and available in a particular practice field, e.g., a fully developed educational product) (Love, 1985; p. 341).

After developing the three message types; Havelock then considered the basic characteristics of knowledge, which in a sense permitted him to further define knowledge types. Those types of knowledge fall into two classifications: (1) intrinsic and (2) extrinsic. Intrinsic characteristics of knowledge have to do with scientific status, value loading, divisibility, complexity, and communicability. Extrinsic characteristics of knowledge would include compatibility with the receiver's system and relative advantage. Advantages are seen as costs and rewards of implementing (Havelock, 1969).

Another view of knowledge is advanced by Louis (1981) who differentiates type of knowledge along two dimensions: the

basis from which the knowledge is generated and its source in relation the user. According to Louis (1981), there are three bases of knowledge: (1) research-based knowledge which is generated through scientific study; (2) craft knowledge, based on the experience of those who are actually engaged in practice; and (3) common knowledge. Common knowledge is not treated by Louis, or by most researchers, because its creation and transfer are difficult; if not impossible, to manipulate and observe. Thus, further discussion of common knowledge will be purposefully disregarded in reference to the literature review pertaining to this study.

Another distinction concerning knowledge advanced by Louis (1981) differentiates between internally and externally generated knowledge. Internal knowledge, she suggests, "resides within the system" (p. 177), whereas external knowledge must be transferred into the system. Internally generated research, according to (Love, 1985), includes such activities as evaluations and management information systems. Concerning evaluations, Love goes on to report:

There is a growing body of literature on the use of evaluations, which may be considered a special subset of knowledge utilization, and although findings from this literature may have application to the broader field of knowledge transfer, most research on knowledge transfer, by definition, is primarily concerned with the transfer of externally generated knowledge (p. 341).

In a more recent view of knowledge, reported by Dunn (1983a), knowledge was conceptualized, not in terms of philosophical definition, but in terms of characteristics or dimensions of the knowledge. His dimensions of knowledge include: (1) subscribership (who designate it as knowledge); (2) source (where it originated); (3) object (e.g., economic vs. environmental); (4) benefits expected (e.g., practical vs. intellectual); (5) purpose (e.g., control vs. understanding), and; (6) warrant (the types of assumptions that warrant it being considered as knowledge, e.g., empirical, ethical, authoritative).

While conceptualizations of knowledge are useful, it appears that; when investigators have examined the nature of knowledge, or characteristics of the product or innovation, several (characteristics) have emerged as being associated with degrees of utilization. Degrees of utilization seem to aid in the confusion but are necessary because other research demonstrates that certain characteristics of knowledge have little bearing on subsequent utilization.

The confusion surrounding knowledge and its use is likely to remain--given the varying (if not conflicting) views of what knowledge actually is. Even if investigators were in agreement as to what the characteristics of knowledge are, the "degree" to which such knowledge characteristics are used is still blatantly subjective. For example, in a major

review of educational program evaluations (which represent but one type of knowledge-producing enterprise) Boruch and Cordray (1980) determined that information (knowledge) produced by an evaluation was more likely to be used if it was: (1) timely; (2) relevant; (3) credible; (4) of interest, and; (5) interpretable. These conclusions were drawn from hundreds of studies with no quantitative data on the factors presented. Thus the five factors listed evolve from an intuitive analysis (no quantitative data on the factors was presented) but emphasize one of the more pervasive concerns in determining knowledge use: perception of the user. For example, one of the factors listed by Boruch and Cordray (1980) is relevance. Relevance in the perception of the user, would very much depend upon whether a potential user decided to use what is known by him. In other words, having knowledge and using it are two separate variables.

The factors related to knowledge production and use tend to confront such variables in terms of methodological quality of research, although there is even disagreement in this area. Dunn (1980) and Sieber (1981) in examining different types of research, agreed that improving research quality will have little impact on utilization. Yet, Louis (1983) in examining utilization in two federal programs, found that quality, defined in terms of relevance,

usability, and level of challenge presented was very important. In other words, if the type of knowledge under study is information of potential application to practitioners, then the more relevant it is to their needs, and the higher probability that it will be used. Sieber (1981) agrees that relevance is a basic prerequisite for use, as did Fullan (1981) who reported that knowledge utilization is greater when the information is relevant, clear, and amenable to "action images." Relevance is also a critical factor in educational training programs and appears to be casually-linked to knowledge transfer and use in organizations. This is emphasized by Robinson and Robinson (1985) who state that:

Too often, employees attend a training program, find the skills valuable, but don't use them on the job. There has been no skill transfer--no effective on-the-job application of skills and knowledge acquired. Everyone--the organization, the trainer and the employee--loses. Skills are transferred when both the learning experience and the work environment work together to achieve the same result (p. 82).

In synthesizing the factors related to knowledge production and transfer, Love (1985) states:

Although a limited number of dimensions of the knowledge product or the knowledge production process have been systematically studied, there is evidence that ultimate utilization may, in certain circumstances, be a function of such factors as the research quality and product outcome relevance. The major problems with the research literature are that studies have not adequately manipulated quality as an independent variable and have not employed designs that permit examination of the interaction of quality factors with other variables

(e.g., the type of knowledge and the utilization setting). Given the relatively few studies that have attempted to investigate factors associated with the knowledge product, it is difficult to disagree with Siber's (1981) conclusion that "despite the assumption that innovation attributes are influential factors in adoption and implementation, the data base is surprisingly thin" (Siber, 1981; p. 128) (p. 358).

In summary, the concept of knowledge is widely viewed from different perspectives, but generally refers to any information of any degree of complexity or interpretative meaning. The distinction that may have the greatest implications for synthesizing and understanding research findings is that between relatively raw information and interpreted knowledge (see, Zaltman, 1982). This distinction may imply different transfer mechanisms, differing relationships between knowledge generator and user, and differing contexts in which the potential user is functioning.

In attempting to conceptualize knowledge it is clear that many researchers have attempted to crystalize the concept and give it meaning. Conceptually, however, knowledge remains rather nebulous, and in the end may best be defined more concretely by usage, as perceived by the user, or other external valuations.

Conceptions of Transfer

Transfer can be described in terms of how knowledge is transmitted to a potential user, and in terms of describing

the relationship between the knowledge producer and user (Love, 1885).

As simple as it might seem, "one of the requirements for being able to utilize knowledge is that one must have access to it" (Short, 1983; p. 227). Having access to information stems from a variety of organized systems (e.g., resource centers, computers, structured educational intervention). As a result, several concepts of transfer have been advanced. The terms which appear most frequently in the literature include "information flow", "diffusion", "dissemination", "technology transfer", and "educational linkage" (Rothwell, 1980).

Mechanisms of knowledge transfer that have been studied in the social science literature include activities such as distributing project reports (e.g., Caplan, 1977; Weiss and Weiss, 1981), using change agents (e.g., Louis, 1981), demonstrating (House, Kernis, and Steele, 1972), using computerized retrieval systems (Heinmiller, 1981), and establishing direct contact between researcher and user (discussed in Beyer and Trice, 1982) through conferences and workshops. From the literature it is clear that the transfer mechanism studied is typically a function of the knowledge transfer and utilization model held by the investigator (Love, 1985).

Much of the literature associated with the concept of knowledge transfer, as it relates to education, have to do policy and or decision-making (e.g., Patton, 1977; Dunn, 1980, and; Kean, 1983). Such studies have demonstrated the importance of the relationship between the knowledge producer and the user.

In a different kind of transfer-utilization context McIntyre and Entwistle (1981) observed that "the emphasis on interpersonal operations was the most significant characteristic and the one most responsible for producing change" (p. 95). Fullan's (1981) conclusion from the literature support interpersonal transfer in that knowledge use is more likely when intervention takes a personal form and when it occurs over a period of time (when support such as training and resources is continuously available).

The concept of transfer is perhaps best summarized by Love, 1985) who states:

Because different transfer mechanisms are used for different purposes, it becomes difficult to draw direct comparisons between studies. It is therefore worth noting the personal factor has been so consistently found to be significant. Some studies also find that other variables, such as the change agent's expertise or the specific change strategies employed, influence utilization. It is clear that the personal characteristics of the people involved are major determinants of what the user does with the knowledge being transmitted.

Conceptions of Utilization

The most frequently used aspect of the entire production-transfer-utilization process is in the area of utilization. Such processes are referred to by Love (1985) as "the process of applying the knowledge or information received by a potential user toward the solution of a problem or the attainment of a goal, but also include the act of rejecting or ignoring the knowledge" (p. 44).

Some investigators use the term knowledge utilization to refer to the process of transfer and utilization. Leming and Kane (1981) state that:

Knowledge utilization is intended to be broadly synonymous with knowledge transfer, knowledge use, knowledge diffusion, research utilization, technology transfer and so on. It refers broadly to activities promoting the infusion of knowledge, technologies, and innovations into practice settings and their application therein.

It is obvious from the above that utilization is a complex term to define. This is pointed out by Larsen (1980) who noted that in addition to the particular information or knowledge that is to be used, one has to also consider political, organizational, socioeconomic, and attitudinal components as part of the process. Although Larson's view leans more toward policy and decision-making use of knowledge, it still addresses the basic issue in classroom learning transfer; attitudinal components of the process.

One of the most useful approaches toward attempting to understand utilization is advanced by Weiss (1981) who suggested that we need to specify six dimensions to conduct meaningful research on evaluation or research utilization:

- (a) what is used (e.g., single finding, synthesis or research),
- (b) how directly the use derives from the research,
- (c) who uses the information (e.g., defined by role of the user),
- (d) how many use the information,
- (e) how immediately the use occurs, and
- (f) how much effect must be demonstrated before one concludes that use has occurred.

Young and Comtosis (1979) also suggested type of use should be considered.

A wide range of concepts and terminology devoted to the discussion of knowledge utilization is extant in the literature. Most of the discussions in the domain deal largely in abstract terms which often confuse the distinction between transfer and utilization, although some writers have specified differences in defining types of use. Caplan (cited in Weiss, 1981) distinguished between "instrumental" use, in which a specific action results, and "conceptual" use, in which a general understanding or conception of issues without necessarily leading to immediate and direct action or decision. When referring to "instrumental," Rich (1977) restricted the term use to cases in which the policy maker or researcher could document the

specific way information was used. Pelz (1978) expanded this framework in describing three types of use: instrumental/engineering, conceptual/enlightenment, and symbolic/legitimative.

Other categories exist (i.g., Knorr, 1977; Rosarion and Love, 1979), and; it certainly would be possible to generate additional subcategories to specify additional types of use.

Such categories of use are arbitrary and that use can actually be conceptualized as a continuum (Love, 1985). At one extreme, research directly influences a decision. In the center of the continuum, "research evidence is taken into account but does not drive the decision" (Weiss, 1981, p. 23). At the other end, research has a more diffuse contribution to a general understanding.

What this review has produced at this point is perhaps, more confusion than may be warranted in regard to transfer and utilization of knowledge. It seems much easier to ignore the maze of information available and conclude that knowledge is a collection of information gathered by a trainer and put into some semblance of meaningfulness to the potential user (the trainee). It is then presented to the potential user, who in turn, will or will not find the information useful and applicapable to his or her job (relevancy). If so, he or she will use the information in such ways as each seems comfortable with, given the nature

of their job, the flexibility or latitude of that job, and their willingness to change.

PERCEPTIONS ABOUT EVALUATION OF TRAINING

Evaluation is defined by the U.S. Office of Personnel Management, Office of Training, as a deliberate process which provides specific reliable information about a selected topic, problem, or question for the purposes of determining value and/or making a decision. Another definition advanced by Hinrich (1976) suggested that evaluation is, "a systematic intentional process of altering behavior of organizational members in a direction which contributes to organizational effectiveness" (p. 832). By definition, evaluation is unquestionably a broad concept, although a commonality does exist in most attempts to define it. The definitions cited above illustrate the common word, process, which reappears frequently throughout the literature. Processes are systems or methods by which things are accomplished (e.g., acquiring skills or knowledge).

It is from the process perspective that many questions and criticisms are launched against measuring the effectiveness of training programs because: (1) the methodologies used to evaluate, or, more likely; (2) that programs are not evaluated at all. Indeed, Training magazine in July of 1986 reported that evaluation of

training programs among the Fortune 500 companies "was not reported as common practice" (p.61). This is a staggering revelation considering that over 90% of the respondents to Training's survey reported that their companies provide extensive training for both managers and first-line supervisors. Yet, those that did evaluate most commonly used the "smile sheet" method (smile sheets are typically program or course evaluations administered at the conclusion of the sessions).

The results of the Training survey tend to support Brandenburg's (1982; cited in McKeen and Terry, 1986) survey of 33 training professionals which reported that "completion of follow-up on resultant behavior was widely reported as a troublesome area with longitudinal data collection seldom used" (p. 2). Part of the reasons, cited earlier in this review, is because of disagreement as to exactly what knowledge transfer and utilization is, thus practitioners do not always know what to measure. Such difficulty is cleverly put into perspective by One-Minute Manager author Dr. Kenneth Blanchard. When talking about evaluation, he suggests, "if you don't know what it is; you can't measure it, and; if it's not measurable; it's not manageable" (quoted from personal interview, October, 1986).

Another reason why evaluation products receive criticism is the absence of external validation as highlighted by McKeen and Terry (1986), who suggest that:

Most training evaluation efforts tend to concentrate on perceptions of the participants. That is to say that participants are asked to rate components of training as to their perceived potential usefulness in the post-training setting at the end of the training program. Follow-up efforts tend to seek perceptions of trainees as to what parts of training seem to be of value in the work place. Again these are perceptions. What is missing for the most part, is some external anchor against which these perceptions might be validated (p.2).

The absence of external validation (perceptions of others not trained, but are in a position to verify behavioral changes) of training has become an issue in transfer and utilization with some researchers (e.g., Wexley and Baldwin, 1986; McKeen and Terry, 1986), while still others agree with Connolly (1983) who argues that, "participants' evaluations of the effectiveness of a training program are at least as valid as those of their subordinates and managers." Connolly further states, "participant evaluation is one of the best ways of finding out how and how much training has changed work habits" (p. 92). Participant evaluation has been proven to be a reliable assessment method (Moon & Hariton, 1958; Kirkpatrick, 1969; Connolly, 1981, cited in Connolly, 1983). Long-term data from trainees is also valid argues Connolly (1983). He indicates:

Several subsequent participant evaluations of

training programs in business and industry have demonstrated that when data are collected in a systematic manner approximately three to nine months after training, the participants do recall how the program helped them. They are very willing to share the information, as long as they are assured of anonymity (p. 92).

Such arguments for the validation of internal perception are compelling, but equally convincing are arguments for the necessity of having external validation. Del Gaizo (1984) for instance, aligns with Mckeen and Terry's (1986) argument for external training validation to supplement internal data. He argues that:

It is important to measure observable behavior, not inferences about behavior (p. 30), and that: ...validation demands observable, quantifiable, tangible and verifiable facts that show specific profit or performance results. Although hard data are preferable, soft data can be used if they can be verified. In other words, a statement that department efficiency increased by five percent is an acceptable measurement of success, but only if it can be proven by a source outside the group or department (p. 31).

SUMMARY

The arguments encompassing training knowledge, transfer and utilization seem destined to remain until more unanimity can be reached in determining exactly what they are. The arguments for and/or against types of training offered as well as the lack of uniformity in paradigms for evaluation/validation are testimony to the confusion surrounding knowledge transfer and use.

The real issue in human resource development is accountability in what training accomplishes (McMamara, 1980). The particular concern is the impact training programs have on individuals back on the job. In other words, how much transfer of training from classroom to work-place took place?

The most practical means for both providing accountability and in satisfying critics of evaluation practices might be to follow the advice of Perloff (1979). He suggested that "when all is said and done, the major purpose of an evaluation of an activity or program is to provide as rational and as comprehensive as possible a basis for making decisions vis'-a-vis program formulation or adoption, changes, or dissolution" (p. 9).

CHAPTER III

RESEARCH DESIGN AND PROCEDURE

This study examines the dissemination of knowledge and the transfer and application of that knowledge by middle managers into the work-place.

This chapter will deal with the target population and the methods of collecting data, the development of the research instruments, research design, and data analysis procedures.

TARGET POPULATION

Samples in this study consisted of 106 Middle Managers employed at the Naval Supply Center, Norfolk, Virginia. Each of the managers considered "middle managers" were defined as "anyone who supervises two or more supervisors." The rationale is that the Federal Government has no real title of "Middle Manager." Anyone who shoulders a supervisory position in civilian-government carries the title "Supervisor". In order to distinguish middle managers from lower-level supervisors and executives, the Employee Development Division, primarily responsible for training in the Command, selected persons to enter middle manager training by the operational definition listed above (a person who supervises two or more persons).

The Naval Supply Center located in Norfolk, Virginia employs approximately 5,500 persons. The organization is predominantly self-contained in that most employees are located in a single building. The computer printout utilized in the randomizing procedures for this study revealed 368 Supervisors, 106 Middle Managers, and 15 Executives; all of whom are in a position to receive formalized adult education oriented training.

The Middle Managers were selected as targets because they represented a group large enough to generalize research information, and because they were the only group receiving training with which the researcher could adequately utilize a control group during the research period.

DEVELOPMENT OF THE RESEARCH INSTRUMENTS

This study utilized two separate formal, random self-assessment questionnaire phases, one involved quantitative data collection and one an external interview phase.

Phase I data collection occurred approximately six- weeks after each of the training interventions (Communication, Stress Management, and Team-building) were completed. No later than one-year and one-week after the first treatment intervention (Communication), the second survey instruments were mailed, which comprised Phase II of the study. In approximately 14 months removed from the first training intervention Phase III, external third-party interviews were

implemented. A description of the instrument design and use follows:

Phase I

Survey of Interpersonal Communication. While a number of instruments were available in standardized form, such instruments were used only as a basis for developing a researcher-designed instrument during this study. Thus, a researcher-designed survey instrument was necessary for two reasons. First, it was essential because of the unique nature of the organization of content in the instructional systems design. The Interpersonal Communication learning units focused on the contextual areas of dyadic interpersonal (one-to-one) communication, self-concept and how it affects communication, listening barriers and skills, and nonverbal forms of communication. Typically each of these topics could, or would be singularly developed into one or two day seminars. However, time constraints dictated that cognition and synthesis of context areas be maximized into a one-day design. Secondly, no data-based instruments uncovered by the researcher were found to be semantically structured so that both cognition and utilization could be assessed within the same question. Consequently the researcher designed and developed a 30 instrument questionnaire (Appendix B) intended to investigate both cognition and ecological application of the concepts taught

in communication. Eighteen of the original 30 questions were targeted for use on the second, Phase II survey.

Survey on Stress Management. While some data-based instruments were available in this area of inquiry, none of the instruments were structured to investigate both cognition and ecological application of concepts taught. Therefore, the researcher, as in the other two areas of inquiry, designed and administered a 16 instrument, five-point Likert type questionnaire (Appendix C). Thirteen of the original 16 questions were used as core questions on the second, Phase II, survey instruments (Appendix G).

Survey of Team-building and Group Dynamics. No adequate standardized instrument was procurable. The researcher, for the same reasons cited above, developed a 31 item questionnaire to assess training transfer of team-building concepts and methods. One qualitative type "yes," "no" question was included on the Team-building survey instrument which asked managers if they were actually using a group technique called "The Nominal Group Method" (Appendix D). The Phase I instrument contained 12 core questions that were subsequently used in the Phase II instruments (Appendix H).

Phase II

Phase II of this study was designed to test the long-range effects on the managers in terms of retention and use

of the skills and concepts taught in each of the training modules: Communication, Stress Management, and Team-building.

To test long-term retention and use, follow-up survey instruments were developed. Survey instruments employed in Phase II were very similar to the Phase I instruments. Specific data extraction employed the same core-questions used in the earlier survey instruments. Slight changes in wording of the original (core) questions constituted most of the basic alterations with the five-point Likert scale being retained for collecting quantitative data.

Core items were written with the intention of matching the Phase I questions that could be correlated in later analysis. Contrasting questions from the Phase I vs. the Phase II Communication questionnaires can be illustrated by the following examples:

"To what extent since receiving training about interpersonal communication has [the way you encode written or verbal messages] to your subordinates changed in the past six weeks?"

The Phase II question was slightly modified to read:

"To what extent since receiving training about interpersonal communication have [the ways you encode written or verbal messages to your subordinates] changed or altered?"

The basic question construct remained in tact (noted by brackets) and only the specific mention to time-frame was altered, leaving in-tact the substance of the question. The

Phase II, questionnaires, as in Phase I, contained items other than the basic core questions in an attempt to camouflage the core questions.

Phase III

Phase III involved external data collection. External data was collected by third-party interviews of the Supervisors (bosses) of the managers trained. The researcher designed interview questionnaires composed of generalized observations (Appendix I) on the part of the supervisors of the managers trained in an attempt to measure whether subjects were actually engaging in behaviors resulting from the training intervention.

RESEARCH INSTRUMENT VALIDITY

Phase I

All three of the posttest data collection instruments for Phase I of the study were deemed content valid by a committee consisting of: The Director of Training, the Deputy Director of Training, the Branch Head from the Traditional Training Division, and two Supervisory and Management Trainers. The committee was not formed specifically for this research effort. With the addition of a military officer, persons involved in decision-making regarding Supervisory and Management training (and this research) form what is titled "The Training Committee." The military officer declined representation regarding the

research effort, but submitted that he would adhere to the decisions made in his absence. Test items were deemed to be content valid because they asked trainees to demonstrate use of skills and competencies required by the individual course objectives. The researcher presented the design of the intended study along with in-house prepared participant manuals. Each of the three (3) training manuals contained both course and learning objectives for each session and units within each session of instruction. Data-based tests were constructed in congruence with the course and instructional objectives. The questionnaire required responses to a five-point Likert-type scale. After the presentation and a discussion period, the review committee concluded that the evaluation instruments would satisfy their requirements, and supported the notion that the study would yield data that could support (or deny) training transfer and use of concepts taught. The committee agreed to accept the quantitative results as demonstration of transfer, or non-transfer based upon results from the instruments. The instruments were rendered valid to the extent that test items were congruent with curriculum content.

Phase II

Phase II instruments were presented to, and approved by the Supervisor in charge of Traditional Training, the

Director and Deputy Director of the Naval Supply Center Training Division, and two Supervisory/Management trainers. The Phase II instruments had not been fully developed prior to Phase I. After the instruments were developed, drafts were given to each member of the Training Committee (less the military officer) for review and comments. The researcher, in lieu of a formal Committee meeting, met individually with members to discuss the survey instruments. The use of "core questions" from the Phase I survey was explained. Two additional questions were added at the request of the Director of training. These questions asked the managers outrightly to rate on a five-point Likert-type scale the extent to which they thought the training had helped them on their jobs, and to what extent they felt they actually "used or applied" the concepts learned in training. The researcher accepted the Director's request and determined that the questions would be valuable toward contributing to the research question advanced in Chapter I. Subsequently the committee agreed to the content validity of the core questions, as well as approving the added responses the second survey instrument.

DATA COLLECTION METHODS AND PROCEDURES: INTERNAL

Phase I

The data collection for Phase I of this study occurred between January 1, 1986 and concluded in mid-September, 1986.

Each of the managers who completed the three training sessions were asked to respond to posttest only questionnaires. The instruments were sent to the managers, with cover letters, via an intra-organization system, called "guard mail". Instruments were mailed approximately six weeks after the completion of each seminar/workshop. A follow-up letter was required for only one of the surveys (Interpersonal Managerial Communication).

Phase I of the research effort used three independent treatment groups each consisting of 50-75 randomly selected managers, and three independent control groups consisting of 30 randomly selected managers. Although 50-75 managers were selected for training in each of three areas of instruction, all did not attend the training. That is, selection did not guarantee attendance. Managers not appearing were not logged as "trained," and subsequently were scheduled for rotation into future training cycles. The managers were "blindly" random-selected to receive training. That is, the researcher did not know in advance which managers were to attend each of the teaching seminars. An Employee Development Specialist (EDS) selected the managers from a list with coded numbers ranging from 20 to 800 from a computer printout supplied by the Naval Supply Center's Data Processing Department (DPD). Since the EDS selector himself did not know the managers by name-face recognition, he both

randomly selected and assigned the personnel to attend training. This is, of course, constituted a "double-blind" selection and assignment of managers who received training. The selector was instructed to select a control group of not less than thirty (30) randomly selected managers who would not receive training in Communication, Team-building, or Stress Management. Attrition was significantly controlled by the fact that civilian managers are required by the Federal Personal Manual (FPM) form 410 (a policy directive) to attend forty hours of staff training annually. Such training is not only required by the FPM, but becomes a matter of record for performance and professional appraisals for salary and promotion advantages. All managers in the study were subjected to researcher-designed data-based post-training survey instruments responding to five-point Likert-type scales.

Phase II

Follow-up survey instruments for Phase II were mailed beginning in mid-December, 1986 using the U.S. Postal Service, rather than the guard mail intra-organization system.

The original data collection was under the guise of the Consolidated Civilian Personal Office (CCPO) located in the Naval Supply Center which, for a variety of reasons, did not sanction the study beyond Phase I. Thus, the researcher,

using the original class lists, mailed the follow-up surveys through normal U.S. Postal Service channels.

The managers who were mailed Phase II instruments were randomly selected by a Naval Supply Center staff Employee Development Specialist. One-half to three-fourths of each group size was selected for mailing the Phase II survey instruments. A follow-up letter was required for one survey instrument, Stress Management.

Random selection, for matching purposes, with Phase I questionnaires was dependent on the return rate from the Phase II surveys. For example, the Stress Management surveys matched 12 preselected total items (although there were more items on the surveys). The Phase II survey yielded 13 responses. As a result, 13 responses from Phase I were randomly selected to match against the 13 responses from Phase II.

After receiving the final number of responses to Phase II, random selection of questionnaires from Phase I was accomplished by typing a list of the number of responses received from Phase I on a sheet of paper. (Again) using Stress as an example, 35 managers responded to the original survey, 13 (of 20 mailed for a 65% return rate) to the second survey. The researcher then solicited a clerk typist in the training division to randomly circle any 13 of the numbers from 1 to 35 on the typed paper. The numbers

circled corresponded to the recording of data from Phase I. One of the numbers the clerk circled was 5, which caused the researcher to go back to the original data and extract numerical scores from the 5th set of data recorded from the Phase I questionnaire.

Phase II instruments were mailed on December 13, 1986, with a pre-selected cut-off return date of January 16, 1987. Follow-up letters for the Stress Management data were mailed on January 20, 1987, with a pre-selected return date set for February 7, 1987.

DATA COLLECTION METHODS AND PROCEDURES: EXTERNAL

Phase III

In an effort to satisfy concerns about evaluation of training programs, this study went beyond internal data collection in an attempt to gather external data to attempt to validate the internal data-perceptions of the Naval Supply Center managers receiving the training.

To gather external information from higher management, the researcher approached and received assistance from the Branch Manager of the Competency Based Certification Branch (CBC) at the Naval Supply Center. The manager herself had received training in Communication and Stress Management, but not in Team-building. She was considered "ideal" to interview other Branch Managers because she was familiar with the training courses, was herself in charge of a

Training program (and widely recognized as such), and could easily gain access to other Branch Managers under the guise of CBC questioning about training. The manager was not considered "biased" as an interviewer as a result of having received training in two of the three seminar/workshops. Also, she was using researcher prepared interview questions and she had no vested interest in the outcome. Her training staff is responsible for "technical" types of training, while the training outlined in this study was designed and taught by a different Training Branch responsible for other types of training (e.g., EEO, Initial Supervisory, Management, Motivation, Leadership skills, etc.): the Traditional Branch. The Manager-interviewer was asked to interview as many of the 14 Division heads (called Branches, or Codes in the Naval Supply Center) as possible. She was instructed on how to interview for consistency and to remain as instrumental as possible throughout each of the interviews she conducted. Interview questionnaires were delivered to the interviewer on March 19, 1987. The finished interview forms were delivered back to the researcher approximately 5 weeks later. A total of seven supervisors were interviewed.

RESEARCH DESIGN

The Phase I study design utilized a completely randomized, post-only, control group approach using

uncorrelated t-tests. It consisted of three independent variables of two levels each and three concomitant dependent variables. The two levels were control and treatment groups.

The Phase II study design utilized a completely randomized, treatment group only, series of correlated t-tests. Tabulated item results from the three surveys received during Phase I served as the independent variables, while the follow-up survey instruments from Phase II served as the dependent variables. Because the Phase I survey was taken anonymously, managers scores from each of the surveys could not be correlated using the same person's scores. Therefore, scores were matched using equal n-sizes from Phase I to Phase II. Individual scores were matched after Administrative Support Staff randomly selected from a set of typed numbers. This is illustrated by the fact that 10 responses to the Phase II Team-building survey were returned, then matched with 10 randomly selected respondents to the Phase I survey. Correlated t-tests were then computed on each matched pair of scores.

Phase III utilized a third-party interviewer. A pre-designated interviewer followed a well-defined structure using a researcher designed objective questionnaire allowing for clarification and elaboration within narrow limits. Interviews were designed to be factually oriented, and aimed

at specific information acquisition regarding each area of training intervention (Appendix I).

METHODOLOGICAL ASSUMPTIONS

One methodological assumption was deemed appropriate relevant to Phase III of the study. It was assumed that the Managers of the personnel receiving training were consciously aware of which of their managers had received training and those who had not. It was further assumed that the managers of the personnel receiving training would have an awareness about the topics, but not necessarily the specific content of the training courses. These assumptions were merited by the fact that a form (DOD 1556) had to be signed by each of the Branch Managers prior to sending their subordinate managers to the training seminars and workshops.

Reliability and accuracy of the data collected from the third-party interviews was insured through a thorough training of the interviewer. The training entailed two hours of instruction/discussion on how to conduct the interviews. The two hour instruction/discussion included these interviewing techniques: making a call to schedule interviews, establishing an interview climate, using consistency in voice tones, keeping the interview instrumental rather than social, and practicing the interview.

DATA ANALYSIS PROCEDURES

Phase I

Phase I of this study, using an experimental approach, tested three treatment and three control groups. Each group was administered researcher designed self-perception instruments. Because the groups were independent of each other, hypotheses were tested using the t-test for uncorrelated means.

Phase II

In order to test the research hypotheses for Phase II of this study, it was determined that correlation of scores was necessary to evaluate long-term retention and use of concepts taught in the training seminars and workshops. The difference between randomly selected scores on core items from the Phase I survey were matched with an equal numbers of measures from Phase II survey instruments. The difference between the mean scores for the two sets of scores using core questions was investigated with a t-test for correlated means.

Phase III

The objective of the third-party interviews in Phase III of this study was to merge the two views of the managers trained with the views of their bosses to the extent that they (the bosses) could substantiate, by either casual or direct observation, the existence or absence of any behavior

changes in the trained managers. The research question asked: Will external interviews of the managers of the managers trained confirm or deny the internal perceptions of the trained managers? In the broad sense, the third-party interviewer, guided by a questionnaire, conducted a pseudo-situational analysis. In Phase III, the qualitative views of the managers of the trained managers were solicited by interview in order to provide depth that could, potentially, significantly contribute understanding to the transfer of the training being studied.

LIMITATIONS

Data collection in this study suffered from at least two limiting factors which, in retrospect, would result in changes should the study be replicated.

Phase I survey instruments were sent to both the treatment and control groups with a cover letter that had to be signed by the Director of the Consolidated Civilian Personnel Office (CCPO). Government procedure for gaining approval for signed correspondence dictated that a system called a "chop-chain" be utilized. Chop-chains for the cover letter used in Phase I of the study had to go through several levels prior to reaching the CCPO Director for signature. The Supervisor in charge of the Traditional Training Division, the Deputy Director of Training, and the Director of Training all had to sign-off on the draft of the

cover letter prior to the Director of CCPO signing. Because individuals (in the chain), including the Director of CCPO, made changes in the original letter - both in content and format - the researcher was not able to construct the type of cover correspondence desired. The affixation of the Director of CCPO's signature was initially deemed valuable in order to advance the notion that the study was, in the minds of the respondents, sanctioned by a higher authority than the researcher; and to insure the greatest possibility of higher return rates. Future research efforts may wish to explore alternate methods for cover letter approvals.

A second limiting constraint involved the use of the third-party interviewer. As previously noted, Phase II and Phase III of the study were not under the endorsement of the Director, CCPO. Phase II was not severely limiting. However, Phase III relied on a third person to assist in interviewing the bosses of the managers who received training. Use of the third person became limiting because of the time span between training and interviewing and the time needed to conduct interviews. The interviewer, herself an employee of the Naval Supply Center, was not able to systematically schedule and conduct interviews within reasonable time limits. Her interviews were taken over a five-week period. This was in addition to the approximate 14 months distance from the training. Researcher preference

would have been to conduct the interviews within a few days, but not to exceed one-week. Time limitations were crucial in this study because several of the Branch Directors are military, and therefore subject to transfer or reassignment. A total of nine out of a possible 14 interviews were attempted. Of the nine managers granting interviews, two, of military rank, were not in their positions at the time their subordinates were trained, nor in their positions long enough to witness any behavioral changes associated with the training interventions. Follow-up investigation revealed that exiting (military) managers could have been interviewed if the researcher had considered the possibility of transfer and/or attrition of supervisors prior to seeking the assistance of the interviewer. The result, of course, was that valuable interviewing data was lost due to boss attrition.

An additional limitation occurred within the framework of the third-party interviews. Of the seven managers who were interviewed, only one agreed to discuss more than one of their personnel who received training. This limitation will be further developed in Chapter Five. Any replicating efforts of this study should consider alternate methodologies associated with interviews.

SUMMARY

The primary objective of the study was to assess whether or not the Naval Supply Center managers actually utilize the concepts they were taught in an adult learning environment within that activity.

In order to effectively test training transfer and utilization, a multi-phased study was conducted.

Phase I encompassed an experimental design with training in specified subject-areas serving as independent variables while the data-based posttests served as the dependent variables.

Phase II of the study employed a follow-up survey of managers trained using slightly modified core questions asked in Phase I. Random selection and matching procedures permitted correlation of treatment group scores between the two phases.

Phase III of the study focused on the external validation, or denial, of the internal data gathered in the earlier phases of the research effort.

CHAPTER IV

RESEARCH FINDINGS

This chapter contains the data and analyses gathered in this study. It presents each Phase of a trichotomous research effort in a logical and orderly exposition in terms of the hypotheses and question advanced in Chapter I of this study. As dictated by the study, research findings will be divided into three succinct sections. First, a basis for the statistical technique employed, a presentation of the hypotheses and, the findings obtained relevant to Phase I of the study are presented. The second section involves the statistical technique employed in Phase II of the study, a rationale for using this technique, a presentation of the hypotheses advanced and, the findings obtained relevant to that phase of the study. The third and final section will present and explain the results from third-party interviews employed in Phase III of the study in relation to the research question advanced in Chapter I. Table illustrations will be utilized where appropriate within the context of each section.

STATISTICAL TREATMENT AND TESTS OF HYPOTHESES
PHASE I OF THE STUDY

Uncorrelated t-Test

The experimental design used in Phase I of this study randomly selected and assigned middle managers in a large government facility to attend training seminar/workshops in Communication, Stress Management, and Team-building. In order to establish inference concerning whether or not the concepts taught in the training seminar/workshops were being acquired (knowledge), transferred (taken back to the work site), and applied (used); a statistical test of significance was necessary in order to generalize sample results across the broader population.

When engaging in research in educational situations such as the Naval Supply Center management training program, it is important to determine whether the mean performances between the treatment and control groups are significantly different. However, the mean differences alone could not sufficiently render with a high degree of probability, whether or not training transfer and usage was significant enough to justify the continuation of the types of training being offered.

It was safe to assume at the beginning of this experimental research project that those being exposed to training would be different than the control group on

measures of learning and transfer. But the question about the degree to which significant differences between means measures would still remain.

While several options for testing significance are available; the t-test for uncorrelated means, with a pre-established one-tailed significance level of .05, was chosen for this study because unequal sample sizes of randomly selected and assigned treatment and control groups were predicted. Because Phase I was not dealing with matched pairs or two measures for the same individual, the researcher could not compute a correlation coefficient. Since the uncorrelated t-test takes into account the absence of a relationship between data from both the treatment and control group, statistically significant differences in mean scores from this study could logically be inferred with a high degree of probability. Thus the t-test for uncorrelated means with a significance level of .05 was used to test the hypotheses for Phase I of the study.

Statistical Test of Hypotheses Phase I

The statistical tests of hypotheses is presented in the same order in which hypotheses were presented in Chapter I.

H1: There will be no significant difference between the utilization scores on measures of interpersonal communication by Norfolk Naval Supply Center Middle Managers

who receive in-house training in Interpersonal Communication and those who do not.

An F ratio of 4.419 (with an F value of 1.79 $p > .05$) was obtained. Using the separate variance formula, a t-value of 10.851 at 63 degrees of freedom was acquired. This exceeded the one-tailed table value of 1.697, $p > .05$ (Table 1).

Hypothesis one was rejected.

H2: There will be no significant difference between the utilization scores on measures of Stress Management by Norfolk Naval Supply Center Middle Managers who receive in-house training in Stress Management and those who do not.

An F ratio of 1.224 (with an F value of 1.895, $p > .05$) was obtained. Using the pooled variance formula, a t-value of 1.712 was acquired which exceeded the tabled one-tailed distribution with a tabled value of 1.677 at $p > .05$ with 59 degrees of freedom (Table 2). Hypothesis two is rejected.

H3: Middle Managers at the Norfolk Naval Supply Center receiving training will not score significantly different on utilization measures of Team-building than managers who do not receive training.

An F ratio of 1.035 (with a F value of 1.99 at $p > .05$) was obtained. Using the pooled variance formula, a t-value of 2.279 was acquired which exceeded the tabled one-tailed distribution with a tabled value of 1.677 at $p > .05$ with 47 degrees of freedom (Table 3). Hypothesis three is rejected.

TABLE 1
H1: COMMUNICATION PHASE I

Source	Mean	Std. Dv.	F	d.f.	t-value
Treatment Group	77.375	19.448			
			4.419	63	* **10.851
Control Group	38.44	9.251			

*p> .05 **p> .01

TABLE 2
H2: STRESS MANAGEMENT PHASE I

Source	Mean	Std. Dv.	F	d.f.	t-value
Treatment Group	46.657	9.734	1.224	59	*1.712
Control Group	28.269	10.772			

*p> .05

TABLE 3
H3: TEAM BUILDING PHASE I

Source	Mean	Std. Dv.	F	d.f.	t-value
Treatment Group	105.64	14.135	1.035	63	*2.279
Control Group	49.833	13.892			

*p> .05

STATISTICAL TREATMENT AND TESTS OF HYPOTHESES
PHASE II OF THE STUDY

Correlated t-test

One of the goals of this study was to attempt to determine if any long-term value of the training intervention would result. Phase II, therefore, was dependent on the statistical results from Phase I in order to satisfy the goal. Because the results from the initial data rejected the null hypotheses advanced in Phase I; this study advanced into the second phase.

Phase II matched mean differences of respondent predetermined core item-measures from Phase I. Using two core measures for the same subjects composed the statistical data, it became possible to correlate the relation between the scores from randomly selected measures from Phase I with an equal number of scores from Phase II (refer to Phase II Methodology in Chapter III). Since there was a relationship between the scores composing the two measures; it was decided to employ the dependent, correlated t-test for significance.

Statistical Test of Hypotheses Phase II

The statistical test of hypotheses is presented in the same order in which hypotheses were presented in Chapter I.

H1: Matched respondent contrast scores of control group managers from survey items of interpersonal communication

taken at six-week and one-year intervals will not differ significantly. A total of 18 questions from the Phase I survey were correspond with similar items from the Phase II survey. A total of 11 (55 percent) of the 20 managers mailed Phase II survey instruments returned questionnaires for the Communication survey. A correlated t-test was performed on the 11 randomly paired measures. A t-value of 2.208 with 10 degrees was significant beyond the $p > .05$ tabled value of 1.812 (Table 4). Hypothesis one, Phase II was rejected.

H2: Matched-respondent contrast scores of control group managers from surveys of Stress Management taken at six-week, and one-year intervals will not be significantly different. A total of 13 (65 percent) of the 20 managers mailed surveys returned questionnaires. Twelve questions from Phase I corresponded with similar items from the Phase II Stress Management survey. A correlated t-test was performed on the 13 randomly paired measures which yielded a t-value of .3002 with 12 degrees of freedom and was not significant at $p > .05$ with a tabled value of 1.782 (Table 5). Hypothesis two, Phase II is tenable.

H3: Matched-respondent contrast scores of control group managers from surveys of Team-building taken at six-week, and one-year intervals will not differ significantly. A total of 10 (50 percent) of the 20 managers mailed survey

returned questionnaires. Twelve questions from Phase I corresponded with similar items from the Phase II Team-building survey. A correlated t-test was performed on the 10 randomly paired managers scores, which yielded a t-value of 1.268. With 9 degrees of freedom the t-value was not significant at $p > .05$ with a tabled value of 1.833 (Table 6). Hypothesis three is tenable.

A qualitative question asking the managers whether or not they were using a problem-solving technique called "Nominal Group" was also asked, and compared with a similar question from the Phase I survey. Three (30 percent) of the seven managers indicated that they "had" used the Nominal Group method--compared to 48 percent in the Phase I survey. Seven of the managers (70 percent) indicated they "had not" used the nominal group method; compared 52 percent from the earlier survey.

TABLE 4
H1: COMMUNICATION PHASE II

Variable	Survey 1	Survey 2	d.f.	t-value	p
Mean	41.090	56			
Variance	211.690	131.8			
Stand. Dev.	14.549	11.480			
n	11	11			
			10	2.208	> .05 > .01

TABLE 5
H2: STRESS MANAGEMENT PHASE II

Variable	Survey 1	Survey 2	d.f.	t-value	p
Mean	34.307	35.307			
Variance	51.564	82.064			
Stand. Dev.	7.180	9.058			
n	13	13			
			12	.3002	< .05

TABLE 6
H3: TEAM BUILDING PHASE II

Variable	Survey 1	Survey 2	d.f.	t-value	p
Mean	44.7	39.5			
Variance	60.011	107.388			
Stand. Dev.	7.746	10.362			
n	10	10			
			9	1.268	< .05

PHASE II
ALTERNATE QUESTIONS

As discussed in Chapter III of this study, two add-on questions were included on the Phase II survey instruments. The questions were not included in the statistical treatment because they were not included in the core statements from Phase I. The questions, however, were extremely useful in terms of responding to the research problem/question stated in Chapter I of this study. The questions, and the findings from each are as follows:

Communication

1. Rank the extent to which you feel the training you received at NSC-NORVA was responsible for any improvement in your communication with your people. Using a five-point Likert-type scale, 11 responses resulted in a mean score of 3.36.

2. To what extent would you say that you actually use or apply the concepts you learned in NSC's Managerial Communication seminar. Using a five-point Likert-type scale, 11 responses resulted in a mean score of 3.36.

Stress Management

1. To what extent do you feel that the training in stress management you receive at NSC-NORVA has assisted you in your job as a manager? Using a five-point Likert-type scale, 13 responses resulted in a mean score of 3.69.

2. To what extent would you say that you actually use or apply the concepts you learned in NSC's stress management seminar? Using a five-point Likert-type scale, 13 responses generated a mean score of 3.76.

Team-building

1. To what extent do you feel the training in team-building that you received at NSC-NORVA has assisted you in your job as a manager? Using a five-point Likert-type scale, 10 responses yielded a mean score of 3.7.

2. To what extent would you say that you actually use or apply the concepts you learned in NSC's team-building seminar? Ten managers responded to a five-point Likert-type scale yielding a mean score of 3.2.

PHASE III OF THE STUDY: EXTERNAL DATA COLLECTION

The following research question was advanced in Phase III of this study:

Q1: Will external interviews of the supervisors of the managers trained in this study confirm or deny the internal perceptions of the trained managers?

Seven out of a possible 14 managers of the managers trained consented to interviews about whether or not any behavioral changes occurred relevant to the training received. One of the managers consented to six individual interviews concerning subordinate's she had direct supervisory control over. Six other managers, many of whom had sent more than one subordinate to training, consented to only one interview specific to their subordinate managers who received training. The interviewer, who was prepared for such a situation, randomly selected a (trained manager's) name from a list provided for her, of all of the (interviewed) manager's subordinates and directed the interview accordingly. Five managers refused to be interviewed, while two managers who were military officers stated that they had not been in their positions before, during, or within the time-frames of the research effort.

Four specific questions (Appendix I) requiring either a "yes" or "no" responses were asked during the interviews. A fifth, sub-structured question (Appendix I) asked for actual

behavioral examples in each area of training that would give testimony to actual usage of skills taught in the Communication, Stress Management, or Team-building training sessions. Each of the "yes-no" questions used in the study, and results, are presented in the order they were asked during the interviews. Results from the qualifying statements are also presented.

q1: Have any of your managers who have received training in Communication, Stress Management, or Team-building here at the Naval Supply Center ever discussed with you any of the skills they learned in the classroom? A total of 11 responses yielded two "no" responses (18 percent), while nine gave "yes" responses (82 percent).

q2: Are you generally aware of the types of skills your managers have received from the training in Communication, Stress Management, or Team-building? Of the eleven managers who responded, eight replied "yes" (73 percent), two with "no" responses (18 percent), and one (9 percent) replied, "vaguely."

q3: Have you encouraged your managers to try some of the skills they learned in Communication, Stress Management, or Team-building? The question yielded a total of ten "yes" answers (91 percent), zero "no" responses, and one response of "maybe" (09 percent).

q4: Do you feel you have given your trained managers the time and opportunity to apply some of the new skills they received in the Communication, Stress Management, or Team-building training? Nine of the managers responded with "yes" (82 percent), with two with "no" (18 percent).

q5. As I list them, describe (if you can) at least three (more, if possible) typical ways you have observed, or experienced situations in which your managers who have received training in Communication, Stress Management, or Team-building use any skills they may have learned and job-applied.

The follow-up inquiry (sub-A; Appendix I) asked, "Have you noticed any differences in the ways your trained managers Communicate with you or their subordinates?" The question generated eight qualified answers; six (75 percent) of which expressed behavioral use associated with training concepts; two (25 percent) revealed that they saw no noticeable changes.

The follow-up inquiry (sub-B; Appendix I) generated a total of twelve qualitative responses to the question, "Have you noticed any differences in the ways your trained managers have engaged in Managing Stress, or assisting others to manage stress?". The responses yielded nine "yes" (75 percent) answers which were indicative of behavioral use

associated with training concepts; three (25 percent) indicated "no" specific observation.

Follow-up inquiry (sub-C; Appendix I) yielded three qualified responses to the question, "Are you aware of any type of Team-building or Group activities that your trained managers have used over the last year?". All of the responses (100 percent) supported behavioral use of concepts received in training.

SUMMARY

This chapter presented the statistical treatment of data from the first two phases of a three-phased research venture, as well as findings from third-party interviews with bosses of the managers who served as the treatment groups in this study.

An uncorrelated t-test was used to test mean scores relevant to the hypotheses for the experimental design used in Phase I of the study. The independent t-test was used because no positive relation between the treatment and control groups existed.

A correlated t-test was employed in Phase II of the research effort, which randomly matched mean scores from two self-perception measures taken from the treatment groups in this study. Alternate questions taken on the surveys, but not included in the statistical treatment, were included in the report of findings.

A presentation of findings from third-party interviews was presented in an attempt to give credibility to empirical findings.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

SUMMARY

The evaluation of training programs is a topic of considerable interest to training directors, administrators, and teachers who are actively involved in formal or organizational education. Consequently, many articles and several studies have been written and conducted in an effort to determine the effects of training interventions. Unlike many of the studies reported in Chapters I and II, this investigation represented an attempt to empirically test the results of an organized training effort by evaluating the effects of treatment interventions through a series of surveys and interviews taken some weeks, to over fourteen months removed from the classroom.

Organizational training efforts have been conducted for years, but as reported in Chapter I, are becoming more dependent on the need to justify the dollars spent in terms of the benefits received. Since the need for organizational training programs will continue in the future, and rather than arbitrarily discontinue many training programs, the need for effective evaluation efforts are being requested by administrators.

This study attempted to empirically evaluate the outcome of in-house training relevant to three content interventions: Interpersonal Communication, Stress Management, and Team Building.

The subjects in the study were 106 military and civilian middle managers from the Naval Supply Center in Norfolk, Virginia.

A total of six measures were taken in the first two of the three phases of the study. During the first phase, three independent treatment and control group measures were concerned with the extent to which the control group managers utilized classroom concepts and skills six-weeks removed from the training room. The second phase of the study, using similar measures, was concerned with the extent to which the control group managers were still utilizing classroom training one-year removed from the training.

A follow-up external evaluation seeking qualitative data constituted a third phase of the study. The effort consisted of third-party interviews of the supervisors of the managers trained. This was conducted in an effort to determine if the effects of training transfer could be substantiated by testimony of either casual observation or specific encounter.

The objective of this research effort was to address the empirical question whether training received by middle

managers at the Norfolk Naval Supply Center was being transferred and utilized in the work place. This problem, outlined in Chapter I, was tested as null hypotheses in the first of the three-phased study outlined above.

Phase I testing was accomplished by way of self-assessment questionnaires sent to three independent treatment and control groups. The data collected was treated statistically by applying uncorrelated t-tests for significance of independent means. The statistical treatment resulted in the rejection of all three of the null hypotheses and established that the Naval Supply Center managers were acquiring knowledge, and that they were transferring and using some of that knowledge for a minimum of at least six-weeks beyond the treatment effects.

Rejection of the null hypotheses in Phase I formed the basis of the second phase of the study; to determine the degree to which any concepts or skills received by the managers in the three training seminar/workshops were retained and used over time. The data collected for Phase II of the study was tested for significance by using t-tests for correlated means applied to measures obtained from a series of "core" questions carried over from the Phase I survey instrument. Only one of the stated null hypotheses - Communication - was rejected, while the other two

hypotheses - Stress Management and Team-building - were retained.

Phase III of the study involved the use of third-party interviews of the supervisors of the managers trained. Phase III was inspired from the literature review contained in Chapter II of this study. Evaluation of training transfer and use have been criticized because of the absence (in the design) of external evaluations that would validate or reject long-term application of training. When included in the design, external evaluations have historically been hampered by organizational barriers; something this study was, in large part, unable to overcome. Although some external interviews were conducted with Naval Supply Center senior managers, the seven managers interviewed represented only one-half of the senior management layer. Of the seven interviewed, only one agreed to be questioned about more than one of their (trained) managers. Whereas most of the external data gathered supported training transfer, the information was not abundant enough to conclude with any degree of precision that the treated managers were utilizing concepts and skills acquired in the classroom.

CONCLUSIONS

In order to effectively formulate conclusions from this research effort, as in previous chapters, this section will

be divided into three separate parts consistent with each chronological phase of the study.

Phase I

Learning transfer and use have inherently been a concern for administrators and teachers from elementary to adult levels of educational intervention. Formal training programs offered by organizations are no exception. Most organizations, including the federal government, are concerned about whether or not the dollars invested into classroom instruction are being invested with any degree of return. That is, will the training result in any benefits relevant to increased production, more effective leadership, or better climates within the organization as a result of formalized education? In order to answer this, and other questions about the effects of educational transfer, the first phase of this study, Phase I, was able to benefit from an experimental design using three independent variables of two levels each and three concomitant dependent variables. The two levels, treatment and control group, were subjected to the following hypotheses:

Phase I Research Hypothesis Number 1: There will be no significant difference between the utilization scores on measures of Interpersonal Communication by Norfolk Naval Supply Center Middle Managers who receive in-house training in interpersonal communication and those who do not.

A total of 30 measures, including 18 core questions to be used in the second phase of the study, asked the Naval Supply Center managers to assess the extent to which they were using and/or applying concepts they were exposed to during training in Interpersonal Communication.

Results from the analysis of data, after being subjected to one-tailed t-test for independent means, revealed a t-value of 10.851. The t-value is particularly noteworthy because it is significant with 63 degrees of freedom at both the $p > .05$, 1.697, and $p > .01$, 2.457. Statistically, the larger the t-value, the less the probability is that the difference between the two means is a function of chance. Thus, it can be stated that mean comparisons between the treatment and control groups not only were significant, but the training effects were very powerful in terms of stimulating the trained managers to take better communication techniques back to the work-site and try them. Based on the experimental design for Phase I, it was expected that the treatment group would score higher than the control group on the survey questionnaires. The expectancy was reinforced by statistical results which suggested that the treatment sufficiently affected transfer of communication training into the work environment.

Research Hypothesis Number 2: There will be no significant difference between the utilization scores on measures of

Stress Management by Norfolk Naval Supply Center Middle Managers who receive in-house training and those who do not.

A total of 16 measures, including 12 core questions to be used in the second phase of the study, asked the Naval Supply Center managers to assess the extent to which they were using and/or applying concepts or skills learned during Stress Management training.

An examination of the one-tailed independent t-test revealed a value of 1.712 which exceeded the tabled value of 1.677 at $p > .05$ level of significance. As in hypothesis one, the mean comparisons between the treatment and control groups were significant. The data suggests that training intervention in Stress Management was of enough value for the managers to take it back into the work environment and apply the content to varying aspects of their jobs at a minimum of six-weeks beyond the classroom training.

Phase I Research Hypothesis Number 3: Middle Managers at the Norfolk Naval Supply Center receiving training will not score significantly different on utilization measures of Team-building than managers who do not receive training.

Results from the analysis of a one-tailed t-test revealed a value of 2.279 with 47 degrees of freedom, which exceeded the tabled value of 1.677 at $p > .05$. In addition to the quantified data; one qualified question contained on the Phase I survey instrument asked the managers if they were

using a group problem-solving technique taught in training called, "nominal group." Forty-eight percent of the managers responded that they had "actually used" the technique. Another 40 percent indicated that they were "thinking about" using the technique which, in the broad sense, implies transfer, but not use. From the remaining three percent; one respondent suspiciously indicated that he/she did not know what it was, and two managers did not respond to the question. The important finding in relation to transfer is that some degree of transfer was associated with 88 percent of the respondents to the Team-building question.

From the statistical and qualitative data, it should be noted that the Team-building training influenced the Naval Supply Center managers in such a way that many utilized the concepts taught in the training environment after the treatment, and in their work environments.

Universal Conclusions From Phase I of the Study

The statistical results from Phase I of this study, by-and-large, are not highly contributing in terms beyond the mere establishment of a fact that was already known going into the study; that the treated groups would score higher on measures related to individual training seminars than control groups. The results, however, were beneficial for the Director of Training, the Director of the Civilian

Personnel Office, as well as other budget and program decision-makers pertinent to supervisory and management training at the Naval Supply Center. In a generalized sense, decision-makers could imply that training was working. By pointing out the differences in the mean scores from the two groups, it was simple enough to justify the continuation of training in communication, stress management, and team-building; or indeed, request more dollars to fund additional training.

The real value in terms of educational research from the data gathered in Phase I of the study was that there was data. That is, a set of isolated scores was available for comparison over time and subsequently Phase II of the study.

Additional value can be gleaned from the actual research instruments, as outlined in Chapter III. Research instruments were designed to test both cognition (knowledge gained) and synthesis/transfer (actual application or use). Thus, beyond the actual statistical significance, the measures of utilization were also extremely helpful to the designers and presenters of the training. Although not a specific design feature of this study, mean item comparisons were also generated from the data allowing the trainers to manipulate content objectives in such a way as to better match "instruction" with "need" as outlined in Chapter I.

Phase II

One-year after the three training seminars, and approximately 46 weeks after Phase I of the research effort, Phase II of the study was implemented. Previous problems involving training assessment, as outlined in the literature review contained in Chapter II, have demonstrated that one of the weaknesses of training evaluation has been the lack of follow-up efforts by researchers. This phase of the study addressed that issue, in part, by testing three hypotheses relevant to long-term retention and use of the concepts and skills learned by the managers relevant to the independent variables in Phase I of the study.

Phase II Research Hypothesis 1: Matched respondent scores of control group managers from survey items of interpersonal communication taken at six-week and one-year intervals will not differ significantly.

A total of 32 responses was included on the second Team-building survey. Two questions, not included in statistical analysis, asked managers to rate the extent to which they felt the training they received was responsible for any improvement in their ability to communicate with their subordinates and, to what extent they actually applied the concepts learned in training. Eighteen questions asked in Phase II represented "core" questions that were asked of managers on the survey in Phase I, and represented the basis

for statistical analysis. Core questions were matched in wording, except for a change from "six-weeks" to "one-year/since receiving training." The time-frames were altered as a matter of consequence because the responses were being solicited at specific chronological intervals.

Analysis of the Communication survey produced a correlated t-value of 2.208 with ten degrees of freedom. The research hypothesis was rejected at the tabled value of 1.812 at the one-tailed $p > .05$ level of significance. The rejection of the null for this hypothesis supports the notion of long-term retention and use of Interpersonal Communication concepts and skills. The significance of the t-value is conspicuous because the Naval Supply Center managers who received training apparently maintained a high level of awareness pursuant to effective communication ecologically. The results were supported positively by the add-on questions not included in the statistical analysis but ultimately favorable toward answering the research problem/question. The questions, from a possible of five, yielded mean scores of 3.36 (relative to the extent training helped to improve manager communication) and 3.36 (relative to the extent the managers felt they actually used or applied concepts learned in training).

Phase II Hypothesis 2: Matched respondent contrast scores of control group managers from surveys of Stress

Management taken at six-week and one-year intervals will not be significantly different.

As outlined in Chapter II, stress, especially managerial stress, has been a major concern in organizations. Analysis from the Phase I study indicated that the managers at the Naval Supply center were concerned about personal stress and were willing to confront it in relation to their jobs. The question of whether they would continue to use methods for coping with stress one-year after receiving training was the focus of a survey soliciting 17 responses. Two measures, not included in statistical analysis, asked the managers to rate the extent to which they felt training in stress management had assisted them in their jobs and, the extent to which they actually applied the concepts learned in the stress management seminar. Twelve core questions were matched in wording with the Phase I survey, except for a change from "six-weeks" to "one-year/since receiving training." Time-frames were altered as a matter of consequence because the responses were being solicited at specific chronological intervals.

Analysis of the Phase II stress management survey produced a correlated t-value of .3002 with 12 degrees of freedom. The research hypothesis was retained because it did not exceed the tabled value of 1.782, $p > .05$. It would be effortless to deduce from the statistical outcome from

hypothesis two that the concepts learned in training simply "washed out" over time. In fact, the rejection of the null hypothesis from Phase I, although significant, was perhaps not significant enough to predict a rejection of the Phase II hypothesis. The reasoning for this is that the Naval Supply Center managers had a high awareness about job stress coming in to the seminar. But, like many managers, they were searching for ways to cope, to somehow "beat the organization" in terms of confronting work-related stress. The Phase I results infer with a high degree of certainty that the managers were at least trying to cope with stress. The seminar provided many ways to identify and relieve stress symptoms, ranging from breathing exercises to wholesale changes in diet. In fact, as a direct consequence of the training seminar, two managers actually resigned their positions, asking for and receiving lateral transfers to less stressful environments. However, it appears that the "organization" won out over the managers which is consistent with the literature review contained in Chapter II. They apparently gave in to the system and accepted stress as a normal part of their jobs and began paying less attention over time to actively dealing with work-related stress. It is important to note that statistical significance, or the lack thereof, taken alone may unjustly cause an oversight of equally important conclusionary evidence.

Rejection or retention of a null hypothesis simply reflects the size of the sample and the power of the test (Savage, 1957). The correlated-t used in this study certainly demonstrated that no significant mean difference existed between the two sets of matched scores. However, the mean scores themselves were so close that they could not have produced a significant difference between them.

The item mean from Phase I was 34.307, while the mean for Phase II was 35.307. There was a only one-point difference in the mean scores, but more importantly, the point differential suggested a gain over time in the use and application of stress management techniques. Transfer was also supported positively by the add-on questions not included in the statistical analysis, but ultimately favorable toward answering the research purpose/question. The questions, from a possible of five, yielded mean scores of 3.69 (relative to the extent training helped to improve manager communication) and 3.76 (relative to the extent the managers felt they actually used or applied concepts learned in training). The results from this study suggest that there was a consistent use over time of the concepts and skills received from Stress Management training, but no statistically significant gain in the use of those concepts and skills. Meaningful, but not significant transfer occurred.

Phase II Research Hypothesis 3: Matched respondent
contrast scores of control group managers from surveys of Team-building taken at six-week and one-year intervals will not differ significantly.

A total of 32 responses was solicited on the Phase II Team-building survey. Two of the questions, not included in the statistical treatment, asked the managers to rate the extent to which they felt the training they received in Team building was responsible for any improvement in their ability to communicate with their subordinates, and; to what extent they felt they were actually applying the concepts learned in training. The 14 core questions, as in the previous two surveys, were altered in wording to read "one-year/over the past year/twelve months" instead of the "six-weeks" typed on the first survey.

Analysis of the core data revealed a correlated t-value of 1.268 with 9 degrees of freedom. The hypothesis was retained because it was not significant at $p > .05$ tabled value of 1.833. The qualitative question, repeated from Phase I of the study, asked the managers if they were using "nominal group" methods of problem-solving. Thirty percent of the managers responded that they "had used" the technique, 70 percent indicated they had not. The results not only represent a noticeable decline but, it must be noted, the question as asked on the Phase II survey

instrument allowed for no way to determine if the managers who did respond "had used," actually employed the technique beyond the six-week survey. The question itself was, therefore, not conducive as an effective conclusionary device.

The failure to reject the null hypothesis in this phase of the study was surprising. Within a few weeks of the training seminars three of the Naval Supply Center managers asked the trainers to have mini-workshop sessions in team building for their subordinates. They were so overwhelmed by the possibilities offered by teaming concepts that they wanted their staff informed so that when (they) began using team or group procedures, the staff would know what was happening. Still other managers were reportedly, randomly stopping the trainers in the hallways, giving testimony as to having tried using team-building practices. All of this occurred even before the Phase I survey instruments were mailed. So, it was no surprise that the results from the Phase I survey were statistically significant. Ten sets of scores were subjected to analysis in Team building, Phase II. However, the original control group contained only 24 managers, so the 10 sets of scores represented 41 percent of the original sample. Unlike the close mean scores representing hypothesis two, the means for hypothesis three (44.7 for Phase I, 39.5 for Phase II) presented a 5.2

differential. Thus, it appears that the data when viewed perspectively, suggests that Team building concepts did not fair well in use and application over time.

Results from the add-on questions tended to positively support the research purpose/question advanced in Chapter I. Out of a possible Likert-type five-point scale, the questions yielded mean scores of 3.7 (relative to the extent training helped to improve manager communication) and 3.2 (relative to the extent the managers felt they actually used or applied concepts learned in training).

Summarily, the early enthusiasm of the managers would suggest that they discovered a new managerial tool, indeed, one that they were more than willing to try, but were unsuccessful with team and/or group management with their subordinates. Two possible explanations can be offered to explain the lack of use in team/group techniques. First, bureaucracies, such as those in the Naval Supply Center, are very structured and traditionally autocratically managed. The entire concept of participatory leadership, as outlined in Chapter II, is so foreign to military and civilian government service that it quite literally would translate into a polar shift if team or group leadership were employed. Another explanation is that the entire concept of team building represented such a novelty to the managers that they were quick to respond to the possibilities, only

to be disarmed by the bureaucratic obstacles seemingly inherent to organizations like the Naval Supply Center. One method for discovering these, and other reasons, was the intent of the third phase of the study.

Phase III Research Question: Will the external data collected from interviews of the supervisors of the managers trained in this study confirm or deny the internal perceptions of the trained managers?

As outlined in Chapter III, and supported by the literature in Chapters I and II of this study, a weakness in evaluation of organized training programs has been the lack of supporting perception from others who did not receive training. To address this issue, as outlined in Chapter III of this study, third-party interviews were planned and conducted with the supervisors of the managers trained.

Seven out of a possible 14 managers were interviewed. Five managers refused to be interviewed. Two managers who were military officers were not tenured in their positions long enough to render any useful information to the interviewer.

Using an interview questionnaire, the interviewer asked five questions requiring either a "yes" or "no" response. The answer of "yes" indicated to the interviewer to proceed in greater depth with the interview. The questions asked

and the implications from each need consideration before a conclusion can be promoted.

The first question asked was, "Have any of your managers who have received training in Communication (Stress Management or Team-building) here at the Naval Supply Center ever discussed with you any of the skills they learned in the classroom?" The inquiry generated nine "yes" (82 percent) and two "no" (18 percent) responses. This question was asked in order to determine if the bosses of the managers trained had been given a report regarding the training seminars. The rationale is that if they (the supervisors) had some idea about the type of training received, they would be in a better position to verify observational use and/or application of concepts and skills learned.

Interview question two asked, "Are you generally aware of the types of skills your managers have received from the training in Communication (Stress Management, or Team-building)?" Eight replied "yes" (73 percent), two "no," and one supervisor replied "vaguely". This question was asked in order to establish some degree of credibility relevant to any subsequent testimony advanced by the supervisors.

Interview question three inquired, "Have you encouraged your (trained) managers to try some of the skills they learned in Communication (Stress Management or Team-

building)?" Ten of the managers responded "yes" (91 percent) and one replied, "maybe". This question was asked in order to directly confront one of the ("boss") barriers associated with training transfer cited in Chapters I and II, to establish circumstantially that training was being supported by upper management, and that subsequent testimony would effectively substantiate training transfer.

Interviewer question four inquired, "Do you feel you have given your (trained) managers the time and opportunity to apply some of the new skills they received in the Communication (Stress Management, or Team-building) seminars?" Nine of the bosses replied "yes" (82 percent), two with "no" (18 percent). This question was asked in relation to a ("boss") barriers noted in Chapter II, to establish that the trained managers allowed sufficient opportunity to implement behavioral changes on the job, and to give potential credibility to subsequent testimony concerning behavioral changes witnessed by the supervisors.

The fifth and final interview question asked, "As I list them, describe (if you can) at least three (more, if possible) typical ways you have observed, or experienced, situations in which your managers who have received training in Communication (Stress Management, or Team-building) use any skill they may have learned and job-applied". The question generated a total of eight responses about

communication, with six of the eight responses expressing behaviors associated with training transfer. Twelve responses concerning stress management were cited, nine of which were positively associated with training. Three responses related to team building concepts were advanced, all of which were positively identified with training transfer.

Although external data was collected, the results were not sufficient enough in quantity to effectively support - either positively, or negatively - the internal perceptions of the trained managers measured in the earlier phases of the study.

The findings applicable to the third-party evaluations are encouraging. However, the data collected was inadequate toward inferring with any degree of strength the use, or application of training concepts. The rationale for this is that the data collected is superficially misleading because it "appears" to be good. However, the data collected is more conspicuous by the absence of interviews with one-half of the potential managers who could have contributed to this study. Moreover, of the seven managers who were interviewed, information was garnered pertaining to only 13 out of a possible 99 managers who attended one or more of the training seminars. It is prudent, therefore, to suggest that interviews reflecting observational/situational

perceptions affecting only 13.131 percent of the population under study is not sufficient to render conclusiveness to the external portion of this study.

Purpose Conclusions

The question pertaining to Phase III of the study is, in itself, unresolved. The purpose encompassing the entire research was to determine if the perceptions of the managers concerning the acquisition of knowledge, and the subsequent transfer and usage could be confirmed by internal and external data gathered.

The results from the Phase I and Phase II portions of this study indicate that the Naval Supply Center managers, by virtue of their own (internal) perceptions, did transfer and use skills and concepts learned in the classroom. Perhaps the most compelling result of the study was that it effectively suggested that short term intervention can result in long-term retention. The Communication and Team-building seminars each encompassed a total of 16 hours of classroom instruction/learning. The stress management seminar encompassed eight hours.

Statistical data suggested that communication concepts were transferred, retained and used. Additionally, the follow-up interview information that was procured gave confirmation that at least some of the managers were engaging in better communication with either their

supervisors or subordinates. Accepted in isolation, the training intervention significantly impacted the transfer and application/use of more effective communication skills by the Naval Supply Center managers. The data from the study suggests that training in communication could be generalized to the greater middle management population. That is, if the managers who were not trained received the training, they would also benefit from the treatment in relation to their jobs.

The study in reference to the stress management variable also can be reasoned to support training transfer. The six-week transfer was statistically significant while the long-term results demonstrated an overall mean score gain. The mean score gain is noteworthy because it could imply that, while the managers did not statistically increase their use of stress management techniques, they did not decrease in use over time. The internal data from the study suggest generalization to the greater population of the Naval Supply Center middle managers.

The data from the team building intervention presents confusing results. Circumstantially the results from the study suggest that training transfer occurred in team building. This was especially true at the six-week interval. However, over the long-term, team building did not display well statistically.

Although it could be reasoned that training transfer and use occurred in team-building, it dramatically brings to surface an issue discovered in the literature review in Chapter II: what is transfer and or use? Both the quantitative and qualitative data support that team-building concepts were readily accepted and used by the Naval Supply Center managers at the six-week interval. Yet, long-term application of team-building concepts and skills disappeared over time. It can be noted, that they did not disappear completely. That concept, in and of itself, can imply transfer. However, the entire collection of research data suggested that team-building transfer was not significant over the long-term. For that reason then, it must be resolved that the treatment effects relating to the team building intervention from the training environment to the work environment were not successful.

In all probability the team building seminar/workshop appealed to the managers intellectually, even emotionally. However, the generalizations of the findings would suggest that the concept of participatory management espoused in team building theory is probably not ready for wholesale acceptance or use within the confines of a government environment. If anything, the team building variable from this study contributes stark testimony to the implication that the public and private sectors of management are still

as far apart as they historically have been. Such should not be a matter of concern, but a matter of fact.

Problem Conclusions

This study attempted to accomplish two compelling goals. First, to respond to its purpose of attempting to establish whether or not training transfer could be confirmed through the perceptions of others. Second, and perhaps more compelling; to address the problem established in Chapter I concerning the need for a methodology that would empirically relate the degree of perceptual factors, both internal and external with respect to measuring knowledge acquisition and transfer.

Adequate methods for external validation of training transfer, as outlined in Chapter I, have been a nuisance for researchers (e.g., McKeen and Terry, 1986; Wexley and Baldwin, 1986). The methodology in this study attempted to utilize the supervisors of the managers receiving training to confirm any behavioral changes that may (or may not) have transferred as a result of the training interventions. The retrospective question then is; did the method used in this study effectively respond to the research problem? The answer as it relates to this study is; the problem prevails.

Methodologically, the study outlined in this report represented a paradigm. A paradigm is, of course, a static representation of a more dynamic process. And, in the most

critical sense, unless that process when implemented, produces an effective model, the paradigm needs questioned. Retrospectively then, this study questions its attempt at external data gathering as part of the design model.

Follow-up information is critical in making reasonable judgements about program efforts (McKeen and Terry, 1986). Thus, the degree of the effectiveness, adequacy, and efficiency of (any) follow-up effort itself must be insured before judgements about program efforts can delineate parallel conclusions. This study, while methodologically sound, was not able to relate internal and external data relevant to transfer.

A universal model for external data gathering has yet to be developed, and even if one were, overcoming many of the barriers associated with attempts at external data gathering might still prevail. McKeen and Terry (1986), in their review of the literature on evaluations in training found it possible to cite examples of both desirable and undesirable practices in evaluation of training. The authors reported studies "that did reflect good practice used external criteria and control group designs" (p. 1). This study, espousing that advice, revealed that even when good practice is attempted, desirable answers for research questions can still remain inconclusive. As a result, future research may not benefit from speculations about degrees of transfer that

might have resulted from the training intervention in this study. Instead, it might be more profitable to consider the reasons the study was not successful in its attempt to generate effective external data gathering (see, Recommendations section, this Chapter).

This study's failure to produce satisfactory external data cannot be directed at a singular element but, moreover, a synthesis of factors related to the entire design-implementation and outcome process. Such factors at a minimum include: (1) a faulty assumption that upper-level managers would be more cooperative; (2) the external data might have been attempted at both the short and long-term intervals, and; (3) the researcher did not have a high degree of control over the external data collection phase (beyond design and implementation).

Concerning the faulty assumption that the supervisors of the trained managers would be more cooperative; the researcher was alerted by existing literature prior to the external design that previous studies had encountered similar difficulties. However, it was felt that the person who collected the data (the Director of the Competency Based Certification (CBC) Training Division) would effectively be able to gain cooperation by virtue of her position (as a peer supervisor) and/or the fact that she ostensibly would/could be gathering data in accordance with the

mission of CBC. In both instances, the assumptions were incorrect.

Another possibility as to why external data collection did not demonstrate any degree of long range effectiveness could have been related to the fact that only one interview with the supervisors of the managers trained was taken. The design was based on the idea of "how" external data would be gathered, not "when" the data should be gathered.

External data collection was a complex problem in a variety of ways in this study. The dependent variable was the data collected, yet the independent variables were "content" related to the training received. This was content to which the supervisors of the trained managers did not have access (a further discussion on this issue is discussed on page 138). In the end, the researcher was confounded with the doubt of whether or not supervisors should have been interviewed at the six-month interval, as well as the one-year interval. Based on what is known after the study, perhaps the short-term data should have been collected and (possibly) used as a base-line for the long range interviews. Yet, some of the reasons why a short-term external data collection were vetoed for the original design surrounded the questions: (1) Would the short-term interviews have caused biased responses, that is, oversensitized the supervisors in such a manner as to affect the

long range results? or; (2) Could the interviews have possibly caused the supervisors to become more precise observationally? Such questions existed at the beginning of the study and were not resolved by it.

Finally, there is the problem of the researcher not having more control over the external data collection. The researcher actually could have. But, in accordance with the cannons of sound research practice, such would have constituted "researcher bias." Accordingly, the decision was made to attempt a singular long range attempt at external data collection using an "unbiased" third-party.

Whether or not the results from this study would have been different if two external data collection points had been a part of the design process remains questionable. But, no less a question. Would the results have been different if more supervisors (in this study) had agreed to be interviewed? Or, would there have been different results if the supervisors interviewed were more aware of the types of content variables they would/could have observed?

It is obvious that the problem advanced in Chapter I of this research effort was not answered. However, there is enough data to suggest that, if a methodology were developed to confront the problem of "cooperation" from the prospective supervisor-interviewees, at least some of the difficulties associated with linking internal and external

data might be resolved. To that end, at least one more variable ought to be considered; the aggressiveness of the third-party interviewer. This problem is linked to the lack of researcher control over the interview process. The third-party interviewer, as reported in Chapter III of this study, was briefed by the researcher. However, beyond the preparation phase, the external data collection rested solely on the shoulders of the interviewer.

Dependency on the third-party interviewer presented not only the issue of non aggressiveness, but individual motivation might have been a factor as well. As previously reported, the interviewer had no vested interest in the outcome; so there was no real motivation to necessarily be aggressive in the collection of data. The interviewer agreed to do the interviews voluntarily. Would more interviews have resulted if, for example, a fee of ten dollars per completed interview had been offered?

External data was essential in this study since it was the variable in the design that could have linked training transfer to organizational behavioral change. Phase I and II of the study suggested individual behavioral change which served, in part, to demonstrate knowledge acquisition and transfer. Yet, the question of overall organizational impact in the end, remained illusive.

IMPLICATIONS

Knowledge Transfer and Utilization

The Phase II team building t-score deserves further comment. Results suggest that having knowledge and using knowledge might be considered clearly dichotomous issues. The reason being usage is observable; knowledge is not. An exhibition of this can be advanced and derived from the team building results from Phase II of this study. Having knowledge, or not having knowledge, could be said to be irrelevant if it is in fact, possessed but not manifested into some observable, behavioral application. Yet having knowledge cannot always be said to manifest itself in specific behaviors (e.g., I know that team-building is an effective managerial tool, but will I use it?). Of course, knowledge in any form must be gained from some source (e.g., a trainer), and from that point individually synthesized by a potential user (e.g., a manager). Once exposed to knowledge, the user may retain and use, or simply dismiss information to which he is exposed. A trainee who retains information raises the question of whether or not he will transfer it in some meaningful way into either his personal or professional behavior.

Deductively, it seems clear from the Phase I data that the Naval Supply Center managers acquired significant knowledge about team building practices and skills. They

also utilized many of those practices and skills at a minimum of six-weeks beyond the training intervention but decreased the use of those behaviors over time. The causes for decreased use, while significant, are perhaps not as important as the finding that there was no apparent cause-effect relationship between knowledge acquisition and knowledge use.

As reported in Chapter II of this study, the most frequently used aspect of the entire production-transfer-utilization process is in the area of utilization. Such processes are referred to by Love (1985) as "the process of applying the knowledge or information received by a potential user toward the solution of a problem or the attainment of a goal, but also include the act of rejecting or ignoring the knowledge" (p. 44). Love's definition primarily extends itself to having access to reports or statistical data that someone could review and, perhaps, ignore. Yet, the quote presents the framework for an implication about the transfer and utilization process as it more relates to learning. Some investigators, as reported in Chapter II, use the term utilization to refer to the process of transfer and utilization. Leming and Kane (1981), for example, suggested that:

Knowledge utilization is intended to be broadly synonymous with knowledge transfer, knowledge use, knowledge diffusion, research utilization,

technology transfer and so on. It refers broadly to activities promoting the infusion of knowledge, technologies, and innovations into practice settings and their application therein.

While knowledge utilization (may) be synonymous with knowledge transfer and knowledge use, this study suggested that the inverse relationship between the two did not exist. That is, having knowledge and using knowledge must be considered different variables.

Use, whether psychomotor or a product produced as a consequence of having knowledge would have to be considered observable. Knowledge is not observable, although it is measurable, given that the proper stimulus were provided to extract whatever knowledge was possessed by an individual.

This study attempted to align respondent questionnaires in such a manner that both the acquisition of knowledge and the subsequent use of that knowledge could be measured. Indeed, Phase I of this study was able to determine that the treated groups had acquired and were using concepts and skills taught in three individual training seminar/workshops. Phase II of the study, specifically the team building results, suggested that the Naval Supply Center managers possessed knowledge that they were not using. Thus, it could be inferred that there is no casual linkage to knowledge and utilization, and; no linkage to transfer and utilization. There is however, a casual linkage to

knowledge and transfer. That is, within the long-term design of this study relevant to team building, there was at least a residual implication that knowledge transferred; use did not.

Observing Use

Closely aligned to the previous implication (above) associated with knowledge transfer and utilization is another issue which surfaced from the literature review in Chapter II. The literature cited a frequent reason why evaluation products receive criticism, the absence of external validation. McKeen and Terry (1986) suggested that:

Most training evaluation efforts tend to concentrate on perceptions of the participants. That is to say that participants are asked to rate components of training as to their perceived potential usefulness in the post-training setting at the end of the training program. Follow-up efforts tend to seek perceptions of trainees as to what parts of training seem to be of value in the work place. Again these are perceptions. What is missing for the most part, is some external anchor against which these perceptions might be validated (p.2).

This study reinforced McKeen and Terry's (1986) observation as accurate. Within the framework of this research the external anchor alluded to by the authors above was the supervisors of the managers who received training. Results from this study suggest that external anchoring for validation through the "untrained" perception of others is not advised (see Recommendations, this Chapter). The

implication therefore, is that unless the external observer does not know what to look for (in relation to specific criterion variables) he or she may not be prepared to render a qualified opinion as to whether training transfer has, or has not occurred.

This implication is important. As reported in Chapter II, "One of the requirements for being able to utilize knowledge is that one must have access to it" (Short, 1983; p. 227). In this study, the trained managers had access to knowledge and utilized it. Their supervisors did not have access to the same knowledge and therefore could not fully recognize utilization relevant to the "content criteria" established in Phases I and II. Thus, the implication is that one of the requirements for being able to observe utilization is that one must have access to the knowledge associated with consequent utilization.

Supervisory and management training seminars by-and-large are theoretically based. Even when specific skills are taught (e.g., the Nominal Group Technique for Problem Solving) if one did not actually experience the skill practiced in training, one may not be in a position to render testimony on its relative use or effectiveness in the work place. Accordingly, if supervisors are to be employed as external anchors for evaluation purposes, it might be

better to have them experience the same training as their managers.

The Effects of Training Transfer on Performance

It would appear that this study has implicitly contributed to addressing some concerns advanced by Zemke and Gunkler (1985), who were cited in Chapter I as intimating:

"...while it may make sense at times to measure transfer by measuring how readily something else is learned, it is the effects of training on performance that are of primary concern to trainers" (p. 49).

This study suggested that training does effect performance and also that the Naval Supply Center managers transferred and used only portions of their training. Thus, it would seem that relevance of content (already entrenched in the literature) and individual control to adapt to organizational barriers are variables to be considered in training transfer. It would appear that the more individual control managers have over utilization, the more likely they are willing and able to transfer concepts or skills from training into the work environment. Communication and stress management techniques allowed for far more individual choices (control) over use, while team-building was highly dependent on others to apply or use. Dependency on others seemed to be the discouraging factor against utilization, while independence served as an encouraging determinant.

toward use of concepts and skills learned in training.

It would also appear that this study addressed a concern about effects of training on performance advanced by Fiedler (1972). Continuing into the 1980's he purported that "one of the most puzzling and intriguing problems in industrial and organizational psychology is the recurrent findings that managerial and leadership training appear to have no effect on organizational performance (p. 114)." In the broad sense, this study was not able to specifically address the "organizational" issue advanced by Fiedler. However, empirically, the study at the Naval Supply Center statistically signified long-range effect on "individual" managerial performance. Individual performance can be said to both affect and effect the organization; if enough individuals in the organization engage in learned behaviors that would better the organization. The generalizability of the Phase I and II results from this study suggest that if more of the supervisors and managers were exposed to the training interventions (which served as independent variables in this study) subsequent organizational change would result.

RECOMMENDATIONS FOR FURTHER STUDY

Viewing this study in retrospect the following recommendations seem appropriate:

1. Future studies should explore more pronounced methods

for external measuring of knowledge transfer and utilization. One suggestion would be to utilize a combination of visual-aural techniques. Through the use of audio tapes, a supervisor could be sent a copy of a survey questionnaire with a pre-recorded tape replacing the face-to-face interview of a third party. The supervisor could be interviewed by tape, in privacy, and with no time restraints. He/she could also respond to the written questionnaire and be extended the option of sending taped messages back to the researcher. Such a method would be fairly inexpensive and could give the researcher more control without violating the validity of the research effort. This may potentially provide better documentation of external anchoring. Supervisors who do not wish to be interviewed might give reasons why, which could contribute to eliminating such problems.

2. Prospective researchers might wish to consider interviewing manager subordinates for external measures. Subordinate interviewing was not possible in this study because of the nature of the organization. A security clearance was required to access many subordinates. Private sector studies should explore subordinate measuring methods.

3. The findings of this study suggest managers utilization of training is dependent on individual controlling factors and that some absence of utilization was

controlled by collective, and not individual barriers.

Future studies may wish to compare "individual" content variables against "group" content variables in the design and evaluation of training course offerings.

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APPENDIX A
COVER LETTER PHASE I OF THE STUDY

MEMORANDUM

From: Director, NSC Consolidated Civilian Personnel Office
To: NSC, Managers

Subj: SURVEY QUESTIONNAIRE

1. A study is being conducted which will attempt to discover, through data-based testing - an analysis of current and future managerial and/or employee needs and concerns.
2. The enclosed questionnaire is concerned with how you communicate with those you work with or supervise. Please respond to each of the items as directed by the instructions provided with the questionnaire.
3. After completing the questionnaire, please place it in the enclosed, addressed envelope and return it immediately.
4. The results of this survey are very much dependent on your completion of the data instrument. Survey results will be available after May 15, 1986. The results and our conclusions will be discussed with managers and used as the basis for the design of future management training programs.
5. Should you have any question, or wish to obtain a copy of the survey results please call Robert Hawkins on extension 5-2700. Your cooperation is appreciated.

Michael Marchesani, Director
Consolidated Civilian Personnel Office

APPENDIX B

PHASE I COMMUNICATION SURVEY QUESTIONNAIRE

(*Core Questions)

INSTRUCTIONS

1. DO NOT WRITE YOUR NAME ON THIS DOCUMENT OR IN ANY WAY MARK IT IN SUCH THAT IT WILL REVEAL YOUR IDENTITY.
2. PLEASE RESPOND TO ALL OF THE ITEMS BY DRAWING A CIRCLE AROUND THE APPROPRIATE NUMBER, AS FOLLOWS:
 - 1= To a very little extent
 - 2= To a little extent
 - 3= To some extent
 - 4= To a great extent
 - 5= To a very great extent
3. WHEN YOU HAVE COMPLETED ALL OF THE ITEMS, RETURN THE INSTRUMENT ACCORDING TO THE INSTRUCTIONS ON YOUR COVER LETTER.

QUESTIONS

1. To what extent has the way you ENCODE written or verbal messages to your subordinates changed in the past six weeks?
*1--2--3--4--5
2. To what extent has your use of POSITIVE FEEDBACK while communicating with your employees improved over the past six weeks?
*1--2--3--4--5
3. To what extent has your use of INTERPERSONAL forms of communication changed or altered over the past six weeks?
*1--2--3--4--5
4. To what extent have you attempted to utilize MULTIPLE CHANNELS of communication with your subordinates over the past six weeks?
*1--2--3--4--5

5. To what extent have you recognized and used the importance of ENCODING as a message variable in your manager-subordinate communication over the past six weeks?

*1--2--3--4--5

6. In the past six weeks, to what extent have you placed more importance on your subordinates' ability to DECODE the communication messages you send them?

*1--2--3--4--5

7. To what extent has the perceived QUALITY of your communication with your people changed or altered during the past six weeks?

*1--2--3--4--5

8. To what extent over the past six weeks has your use of nonverbal uses of PERSONAL SPACE and DISTANCE changed or altered over the past six weeks?

*1--2--3--4--5

9. To what extent over the past six weeks have you become more aware of and utilize HEMISPHERIC DOMINANCE as a variable in your managerial communication with your subordinates?

*1--2--3--4--5

10. To what extent during the past six weeks have you been more aware of and utilize the differences in the ways individual's RECEIVE information while giving instructions to those you supervise?

*1--2--3--4--5

11. To what extent over the past six weeks has your perceived EFFECTIVENESS while communicating with your people improved since receiving training in interpersonal communication?

*1--2--3--4--5

12. To what extent in the past six weeks have you recognized and applied your responsibility as a SIGNIFICANT OTHER in your role as a manager?

*1--2--3--4--5

13. To what extent over the past six weeks have you increased the use of NONVERBAL forms of communication with your people?

*1--2--3--4--5

IN RELATION TO THE ABOVE QUESTION; to what extent over the past six weeks have you increased your interaction with your subordinates specific to:

14. Body language and movement?

1--2--3--4--5

15. Territoriality?

1--2--3--4--5

16. Personal space and distance?

1--2--3--4--5

17. Eye-behavior, including direct eye-contact and pupil behavior?

1--2--3--4--5

18. Your physical appearance and/or the appearance of those you supervise?

*1--2--3--4--5

19. To what extent over the past six weeks have you attended LISTENING BEHAVIOR as a potential barrier in manager-subordinate, or subordinate-manager communication?

*1--2--3--4--5

20. Over the past six weeks, to what extent have you attended, and attempted to facilitate better communication with your people through the use of FEEDBACK?

*1--2--3--4--5

21. To what extent during the past six weeks have you utilized the recognition of differences in PERCEPTION OF SELF OR OTHERS in your manager-subordinate relationships ?

*1--2--3--4--5

OF THE THREE COMMON BARRIERS TO EFFECTIVE COMMUNICATION-- PHYSICAL, PHYSIOLOGICAL, AND PSYCHOLOGICAL--to what extent over the past six weeks have you been able to deal more effectively with:

22. Physical barriers?

*1--2--3--4--5

23. Psychological barriers?

*1--2--3--4--5

24. Of the three types of barriers (listed above); have you over the past six weeks actually been able to OVERCOME any of these barriers (yes___no___), and to what extent?

1--2--3--4--5

25. To what extent over the past six weeks have you planned or executed an INVENTORY of your subordinates attitudes toward your ability to communicate with them?

1--2--3--4--5

26. To what extent over the past six weeks have you become more familiar with and better understand how your managerial communication STYLE or TENDENCY affects those that you supervise?

1--2--3--4--5

TO WHAT EXTENT HAVE YOU OVER THE PAST SIX WEEKS attempted to improve the following LEVELS of manager-subordinate communication:

27. Interpersonal verbal?

1--2--3--4--5

28. Interpersonal nonverbal?

1--2--3--4--5

29. Personal self-concept or esteem?

1--2--3--4--5

30. Personal listening?

1--2--3--4--5

APPENDIX C

PHASE I STRESS MANAGEMENT SURVEY QUESTIONNAIRE

(*Core Questions)

INSTRUCTIONS

DO NOT WRITE YOUR NAME ON THIS DOCUMENT OR MARK ON IT IN ANY WAY SUCH THAT IT MIGHT REVEAL YOUR IDENTITY. PLEASE READ EACH QUESTION CAREFULLY AND RESPOND BY MARKING:

- 1= To a very little extent;
- 2= to a little extent;
- 3= to some extent;
- 4= to a very great extent
- 5= to a very great extent.

AFTER COMPLETING THE QUESTIONNAIRE, PLEASE PLACE IT IN THE SELF-ADDRESSED ENVELOPE (INCLUDED) AND RETURN IT IMMEDIATELY. THANK YOU!

QUESTIONS

1. To what extent over the past six weeks have you been able to recognize and deal with symptoms of PERSONAL JOB STRESS?

*1--2--3--4--5

2. To what extent over the past six weeks have you been able to recognize your characteristics as a Type A+, A, B, OR C personality on your job?

*1--2--3--4--5

3. To what extent over the past six weeks have you actively engaged in SELF-MONITORING of personal stress?

*1--2--3--4--5

4. To what extent over the past six weeks have you used any special breathing techniques to accommodate stressful situations?

*1--2--3--4--5

5. During the past six weeks, to what extent have you considered changing, or have actually altered your diet as a means to assist your body to cope with stress?

*1--2--3--4--5

6. To what extent over the past six weeks have you learned to recognize the difference between GOOD STRESS and BAD STRESS?

1--2--3--4--5

7. Over the past six weeks, to what extent have you become aware of and have ATTEMPTED TO CONTROL the RISK FACTORS associated with personal stress?

*1--2--3--4--5

8. To what extent over the past six weeks have you improved in your ability to recognize stress symptoms in others (either those you supervise or work with)?

*1--2--3--4--5

9. To what extent over the past six weeks have you TAKEN A TRIP TO THE MOUNTAIN or used some similar form of cognitive (mental) transference to assist you in coping with personal stress?

1--2--3--4--5

10. Over the past six weeks, to what extent have you actually become aware of your own personal stress and considered reasonable alternatives for coping with it?

*1--2--3--4--5

11. During the past six weeks, to what extent have you consciously engaged in CAREER MANAGEMENT of stress?

1--2--3--4--5

12. To what extent over the past six months have you become aware of and consciously attempted to deal with personal stress through SUPPORT SYSTEMS?

*1--2--3--4--5

13. To what extent over the past six weeks have you become aware of (in the work place) and attempted to control stress SYSTEMATICALLY?

*1--2--3--4--5

14. Over the past six weeks, to what extent have you attempted to control your mind and/or your body stress without the assistance of external stimulants?

*1--2--3--4--5

15. To what extent over the past six weeks have you become aware of and been able to cope with stress management as a bio-chemical, rather than mental imbalance?

*1--2--3--4--5

APPENDIX D

PHASE I TEAM BUILDING SURVEY QUESTIONNAIRE

(*Core Questions)

INSTRUCTIONS

1. DO NOT WRITE YOUR NAME ON THIS DOCUMENT. THE QUESTIONS ARE FOR ASSESSMENT PURPOSES ONLY.
2. RESPOND TO ALL OF THE ITEMS BY DRAWING A CIRCLE AROUND THE APPROPRIATE NUMBER, CORRESPONDING TO THE FOLLOWING:

1= to a very little extent
2= to a little extent
3= to some extent
4= to a great extent
5= to a very great extent
3. AFTER COMPLETING THE QUESTIONNAIRE, PLEASE PLACE IT IN THE SELF-ADDRESSED ENVELOPE (INCLUDED) AND RETURN IT IMMEDIATELY. THANK YOU!

QUESTIONS

- 1-2. In terms of Organizational Teaming; to what extent over the past six weeks have you as a manager recognized the "NO FLIES IN CHINA" possibilities at NSC 1--2--3--4--5 and/or with your NSC "family" 1--2--3--4--5?

In relation to the following statements; to what extent over the past six weeks have you changed or modified your managerial behavior in:

3. Expressing your commitment to your NSC family?

*1--2--3--4--5
4. Solving more problems than you have created for your NSC family?

1--2--3--4--5
5. Establishing and making known clearer NSC family goals?

*1--2--3--4--5

6. Making your personal standards clearer to your NSC family?

*1--2--3--4--5

To what extent over the past six weeks have you consciously "felt" more creative, confident, and more knowledgeable and have APPLIED these concepts toward to building a more unitary and cohesive NSC family team?

7. Creative 1--2--3--4--5

8. Confident *1--2--3--4--5

9. Knowledgeable *1--2--3--4--5

- 10-11. To what extent over the past six weeks have you become more aware of LEADERSHIP SHIFTS 1--2--3--4--5, and have utilized such shifts (i.g. dependence to independence) in developing your NSC family team 1--2--3--4--5?

12. To what extent during the past six weeks TOLERANCE FOR FAILURE with those you supervise changed or modified?

*1--2--3--4--5

- 13-14. To what extent have you in the past six weeks become more aware of the CLIMATE among your NSC family 1--2--3--4--5, and have attempted to create more positive CONDITIONS among those that you manage 1--2--3--4--5?

15. In terms of LEADERSHIP; to what extent during the past six weeks have you attempted to manipulate changes in responsibility from worker-to-manager, as opposed to manager-to-worker?

*1--2--3--4--5

- 16-17. To what extent over the past six weeks have you been able to better recognize the varying LEVELS OF CONFLICT *1--2--3--4--5, and have ben able to apply one or more of the ways you manage your people *1--2--3--4--5?

- 18-19. To what extent over the past six weeks would you say that you are more specifically aware of the differences between PERSONAL and INTERPERSONAL types of conflict 1--2--3--4--5, and have been able to utilize those awarenesses in the ways you manage your subordinates 1--2--3--4--5?
- 20-21. To what over the past six weeks have you been more aware of the differences between LEADERSHIP and TEAM LEADERSHIP 1--2--3--4--5, and have made changes in the ways you manage either style 1--2--3--4--5?
- 22-23. To what extent over the past six weeks have you come to understand the statement: "goals from above do not receive ownership" *1--2--3--4--5, and have applied that philosophy toward the way(s) you manage others *1--2--3--4--5?
- 24-25. To what extent over the past six weeks have you attempted to recognize the symptoms of FEELING OUT among those that you manage *1--2--3--4--5, and have made efforts to reverse the symptoms *1--2--3--4--5?
- 26-27. To what extent over the past six weeks have you been able to recognize the differences between TASK *1--2--3--4--5, and MAINTENANCE 1--2--3--4--5 functions of working teams?
- 28-29. To what extent over the past six weeks have you become more aware of NOMINAL GROUP methods of problem solving 1--2--3--4--5, and have either thought about or actually used the technique with your people 1--2--3--4--5?
30. In relation to the previous question; circle one:
- A. Thought about using nominal group techniques
 - B. Have actually used nominal group methods
 - C. Don't know what nominal group methods are

APPENDIX E

COVER LETTER PHASE II OF THE STUDY

Dear

Sometime over the past year you were asked to assist the Training Division, under the direction of CCPO, to fill out a post-training survey instrument concerning the training you received in INTERPERSONAL MANAGERIAL COMMUNICATION. The overall results of that survey were encouraging.

I have been granted permission to utilize some of the data gathered to fulfill some requirements for my Doctoral Dissertation. While the results of the first survey were sufficient to satisfy the needs of CCPO; my dissertation committee feels that the study would be stronger if I go one step further and collect additional follow-up data.

I am asking you to assist me by responding to the enclosed "follow-up" questionnaire. In addition to the obvious importance for me; the results of this study may have some really potentially significant impact for the training community nationally; after my dissertation is published.

There are some facts you should be aware of. First, the original survey instrument was sent to you under the direction of CCPO. This survey is for my own personal use, and for the record, is NOT under CCPO (although final data-analysis will be made available to that office if requested). Second, as you may have already assumed; the results from this survey will be published, both in my dissertation, and in selected trade journals upon acceptance. So, as you can tell, your contribution is vitally important.

Would you please respond to the enclosed questionnaire as honestly as possible. Try not to respond the way you feel you should, or in such a way that you might think I would want you to respond. Take your time, reflect on what the question is asking FROM THE MANAGERIAL PERSPECTIVE, then respond to each item.

I am unfortunately pressed for time and need the instrument back as soon as possible. After completing it, please insert the instrument (without this cover letter) in the enclosed self-addressed envelope, and mail it to me.

Should you have any questions or comments please feel free to call me at _____ (day), or _____ (evenings).
With deepest appreciation....

Bob Hawkins

APPENDIX F

PHASE II COMMUNICATION SURVEY QUESTIONNAIRE

INSTRUCTIONS

1. DO NOT WRITE YOUR NAME ON THIS DOCUMENT OR IN ANY WAY MARK IT IN SUCH THAT IT WILL REVEAL YOUR IDENTITY.
2. PLEASE RESPOND TO ALL OF THE ITEMS BY DRAWING A CIRCLE AROUND THE APPROPRIATE NUMBER, AS FOLLOWS:

1= To a very little extent

2= To a little extent

3= To some extent

4= To a great extent

5= To a very great extent

3. WHEN YOU HAVE COMPLETED ALL OF THE ITEMS, RETURN THE INSTRUMENT ACCORDING TO THE INSTRUCTIONS ON YOUR COVER LETTER.

QUESTIONS

1. To what extent has the way you ENCODE written or verbal messages to your subordinates changed over the past year, since receiving training in communication?

1--2--3--4--5

2. To what extent has your use of POSITIVE FEEDBACK while communicating with your employees improved over the past year since, since receiving training in communication?

1--2--3--4--5

3. To what extent has your use of INTERPERSONAL forms of communication changed or altered over the past year?

1--2--3--4--5

4. To what extent have you attempted to utilize MULTIPLE CHANNELS of communication with your subordinates over the past year?

1--2--3--4--5

5. To what extent have you recognized and used the importance of ENCODING as a message variable in your manager-subordinate communication over the past year, since receiving training in communication?

1--2--3--4--5

6. In the year, to what extent have you placed more importance on your subordinates' ability to DECODE the communication messages you send them?

1--2--3--4--5

7. To what extent has the perceived QUALITY of your communication with your people changed or altered during the past 12 months?

1--2--3--4--5

8. To what extent over the past year has your use of nonverbal application of PERSONAL SPACE and DISTANCE changed or altered over the past year?

1--2--3--4--5

9. To what extent over the past year have you become more aware of and utilize HEMISPHERIC DOMINANCE as a variable in your managerial communication with your subordinates?

1--2--3--4--5

10. To what extent during over the past year have you been more aware of and utilize the differences in the ways individual's RECEIVE information while giving instructions to those you supervise?

1--2--3--4--5

11. To what extent over the past 12 months has your perceived EFFECTIVENESS while communicating with your people improved since receiving training in interpersonal communication?

1--2--3--4--5

12. To what extent in the past year have you recognized and applied your responsibility as a SIGNIFICANT OTHER in your role as a manager?

1--2--3--4--5

13. To what extent over the past year have you increased the use of NONVERBAL forms of communication with your people?

1--2--3--4--5

IN RELATION TO THE ABOVE QUESTION; to what extent over the past year have you increased your interaction with your subordinates specific to:

14. Body language and movement?

1--2--3--4--5

15. Territoriality?

1--2--3--4--5

16. Personal space and distance?

1--2--3--4--5

17. Eye-behavior, including direct eye-contact and pupil behavior?

1--2--3--4--5

18. Your physical appearance and/or the appearance of those you supervise?

1--2--3--4--5

19. To what extent over the past 12 months have you attended LISTENING BEHAVIOR as a potential barrier in manager-subordinate, or subordinate-manager communication?

1--2--3--4--5

20. Over the past year, to what extent have you attended, and attempted to facilitate better communication with your people through the use of FEEDBACK?

1--2--3--4--5

21. To what extent during the past 12 months have you utilized the recognition of differences in PERCEPTION OF SELF OR OTHERS in your manager-subordinate relationships ?

1--2--3--4--5

OF THE THREE COMMON BARRIERS TO EFFECTIVE COMMUNICATION--PHYSICAL, PHYSIOLOGICAL, AND PSYCHOLOGICAL--to what extent over the past six weeks have you been able to deal more effectively with:

22. Physical barriers?

1--2--3--4--5

23. Psychological barriers?

1--2--3--4--5

24. Of the three types of barriers (listed above); have you over the past year actually been able to OVERCOME any of these barriers (yes___no___), and to what extent?

1--2--3--4--5

25. To what extent over the past 12 months have you planned or executed an INVENTORY of your subordinates attitudes toward your ability to communicate with them?

1--2--3--4--5

26. To what extent over the past year have you become more familiar with and better understand how your managerial communication STYLE or TENDENCY affects those that you supervise?

1--2--3--4--5

TO WHAT EXTENT HAVE YOU OVER THE PAST SIX WEEKS attempted to improve the following LEVELS of manager-subordinate communication:

27. Interpersonal verbal?

1--2--3--4--5

28. Interpersonal nonverbal?

1--2--3--4--5

29. Personal self-concept or esteem?

1--2--3--4--5

30. Personal listening?

1--2--3--4--5

IMPORTANT: Now that you have completed the survey, go back over it and make sure you have responded to ALL of the items. Also, it goes without saying that it is difficult to tell from a survey what you knew about communicating before you came to training. Thus, we are confronted with the problem of whether or not training served you in any positive way. We may never know, but you can help to answer that question since you are the one who received training. Using the same 1-5 scale, try as best you can to respond to the following:

1. RANK THE EXTENT TO WHICH YOU FEEL THE TRAINING YOU RECEIVED AT NSC-NORVA WAS RESPONSIBLE FOR ANY IMPROVEMENT IN YOUR COMMUNICATION WITH YOUR PEOPLE 1--2--3--4--5.

2. OVERALL, TO WHAT EXTENT WOULD YOU SAY THAT YOU ACTUALLY USE OR APPLY THE CONCEPTS YOU LEARNED IN NSC'S MANAGERIAL COMMUNICATION SEMINAR 1--2--3--4--5?

APPENDIX G

PHASE II STRESS MANAGEMENT SURVEY QUESTIONNAIRE

INSTRUCTIONS

DO NOT WRITE YOUR NAME ON THIS DOCUMENT OR MARK ON IT IN ANY WAY SUCH THAT IT MIGHT REVEAL YOUR IDENTITY. PLEASE READ EACH QUESTION CAREFULLY AND RESPOND BY MARKING:

- 1= To a very little extent;
- 2= to a little extent;
- 3= to some extent;
- 4= to a very great extent
- 5= to a very great extent.

AFTER COMPLETING THE QUESTIONNAIRE, PLEASE PLACE IT IN THE SELF-ADDRESSED ENVELOPE (INCLUDED) AND RETURN IT IMMEDIATELY. THANK YOU!

QUESTIONS

1. To what extent over the past 12 months have you been able to recognize and deal with symptoms of PERSONAL JOB STRESS?

1--2--3--4--5

2. To what extent over the past year have you been able to recognize your characteristics as a Type A+, A, B, OR C personality on your job?

1--2--3--4--5

3. To what extent over the past year have you actively engaged in SELF-MONITORING of personal stress?

1--2--3--4--5

4. To what extent over the past 12 months have you used any special breathing techniques to accommodate stressful situations?

1--2--3--4--5

5. During the past year, to what extent have you considered changing, or have actually altered your diet as a means to assist your body to cope with stress?

1--2--3--4--5

6. To what extent over the past year have you learned to recognize the difference between GOOD STRESS and BAD STRESS?

1--2--3--4--5

7. Over the past 12 months, to what extent have you become aware of and have ATTEMPTED TO CONTROL the RISK FACTORS associated with personal stress?

1--2--3--4--5

8. To what extent over the past year have you improved in your ability to recognize stress symptoms in others (either those you supervise or work with)?

1--2--3--4--5

9. To what extent over the past year have you TAKEN A TRIP TO THE MOUNTAIN or used some similar form of cognitive (mental) transference to assist you in coping with personal stress?

1--2--3--4--5

10. Over the past 12 months, to what extent have you actually become aware of your own personal stress and considered reasonable alternatives for coping with it?

1--2--3--4--5

11. During the past year, to what extent have you consciously engaged in CAREER MANAGEMENT of stress?

1--2--3--4--5

12. To what extent over the past year have you become aware of and consciously attempted to deal with personal stress through SUPPORT SYSTEMS?

1--2--3--4--5

13. To what extent over the past year have you become aware of (in the work place) and attempted to control stress SYSTEMATICALLY?

1--2--3--4--5

14. Over the past 12 months, to what extent have you attempted to control your mind and/or your body stress without the assistance of external stimulants?

1--2--3--4--5

15. To what extent over the past year have you become aware of and been able to cope with stress management as a bio-chemical, rather than mental imbalance?

1--2--3--4--5

IMPORTANT: One of the very difficult things to accomplish with this, as well other survey instruments, is to determine why you know what you do about a specific topic. Obviously, it is difficult to tell from a survey what you knew about stress before you attended training. Thus, we are confronted with the problem of whether or not training served you in any positive way. We may never know, but you can help to answer this question since you were the one that received training. Using the same 1-5 scale, review the survey items again very carefully to ensure that you responded to all of the items, but more importantly to come back and answer these questions:

1. TO WHAT EXTENT DO YOU FEEL THAT THE TRAINING IN STRESS MANAGEMENT YOU RECEIVED AT NSC-NORVA HAS ASSISTED YOU IN YOUR JOB AS A MANAGER 1--2--3--4--5, and;
2. TO WHAT EXTENT WOULD YOU SAY THAT YOU ACTUALLY USE OR APPLY THE CONCEPTS YOU LEARNED IN NSC'S STRESS MANAGEMENT SEMINAR 1--2--3--4--5?

APPENDIX H
PHASE II TEAM BUILDING SURVEY QUESTIONNAIRE

INSTRUCTIONS

1. DO NOT WRITE YOUR NAME ON THIS DOCUMENT. THE QUESTIONS ARE FOR ASSESSMENT PURPOSES ONLY.
2. RESPOND TO ALL OF THE ITEMS BY DRAWING A CIRCLE AROUND THE APPROPRIATE NUMBER, CORRESPONDING TO THE FOLLOWING:
 - 1= to a very little extent
 - 2= to a little extent
 - 3= to some extent
 - 4= to a great extent
 - 5= to a very great extent
3. AFTER COMPLETING THE QUESTIONNAIRE, PLEASE PLACE IT IN THE SELF-ADDRESSED ENVELOPE (INCLUDED) AND RETURN IT IMMEDIATELY. THANK YOU!

QUESTIONS

- 1-2. In terms of Organizational Teaming; to what extent over the past 12 months have you as a manager recognized the "NO FLIES IN CHINA" possibilities at NSC 1--2--3--4--5 and/or with your NSC "family" 1--2--3--4--5?

In relation to the following statements; to what extent over the year have you changed or modified your managerial behavior in:

3. Expressing your commitment to your NSC family?
1--2--3--4--5
4. Solving more problems than you have created for your NSC family?
1--2--3--4--5
5. Establishing and making known clearer NSC family goals?
1--2--3--4--5
6. Making your personal standards clearer to your NSC family?
1--2--3--4--5

To what extent over the past 12 months have you consciously "felt" more creative, confident, and more knowledgeable and have APPLIED these concepts toward to building a more unitary and cohesive NSC family team?

7. Creative 1--2--3--4--5

8. Confident 1--2--3--4--5

9. Knowledgeable 1--2--3--4--5

10-11. To what extent over the past year have you become more aware of LEADERSHIP SHIFTS 1--2--3--4--5, and have utilized such shifts (i.g. dependence to independence) in developing your NSC family team 1--2--3--4--5?

12. To what extent during the past year has TOLERANCE FOR FAILURE with those you supervise changed or modified?

1--2--3--4--5

13-14. To what extent have you in the past 12 months become more aware of the CLIMATE among your NSC family 1--2--3--4--5, and have attempted to create more positive CONDITIONS among those that you manage 1--2--3--4--5?

15. In terms of LEADERSHIP; to what extent during the past year have you attempted to manipulate changes in responsibility from worker-to-manager, as opposed to manager-to-worker?

1--2--3--4--5

16-17. To what extent over the past year have you been able to better recognize the varying LEVELS OF CONFLICT 1--2--3--4--5, and have ben able to apply one or more to the ways you manage your people 1--2--3--4--5?

18-19. To what extent over the past 12 months would you say that you are more specifically aware of the differences between PERSONAL and INTERPERSONAL types of conflict 1--2--3--4--5, and have been able to utilize those awarenesses in the ways you manage your subordinates 1--2--3--4--5?

- 20-21. To what over the past year have you been more aware of the differences between LEADERSHIP and TEAM LEADERSHIP 1--2--3--4--5, and have made changes in the ways you manage either style 1--2--3--4--5?
- 22-23. To what extent over the past 12 months have you come to understand the statement: "goals from above do not receive ownership" 1--2--3--4--5, and have applied that philosophy toward the way(s) you manage others 1--2--3--4--5?
- 24-25. To what extent over the past year have you attempted to recognize the symptoms of FEELING OUT among those that you manage 1--2--3--4--5, and have made efforts to reverse the symptoms 1--2--3--4--5?
- 26-27. To what extent over the past year have you been able to recognize the differences between TASK 1--2--3--4--5, and MAINTENANCE 1--2--3--4--5 functions of working teams?
- 28-29. To what extent over the past 12 months have you become more aware of NOMINAL GROUP methods of problem solving 1--2--3--4--5, and have either thought about or actually used the technique with your people 1--2--3--4--5?
30. In relation to the previous question; circle one:
- A. Thought about using nominal group techniques
 - B. Have actually used nominal group methods
 - C. Don't know what nominal group methods are

IMPORTANT: One of the very difficult things to accomplish with this, as well other survey instruments, is to determine why you know what you do about a specific topic. Obviously, it is difficult to tell from a survey what you knew about Team-building concepts before you attended training. Thus, we are confronted with the problem of whether or not training served you in any positive way. We may never know, but you can help to answer this question since you were the one that received training. Using the same 1-5 scale, review the survey items again very carefully to ensure that you responded to all of the items, but more importantly to come back and answer these questions:

1. TO WHAT EXTENT DO YOU FEEL THAT THE TRAINING IN TEAM BUILDING THAT YOU RECEIVED AT NSC-NORVA HAS ASSISTED YOU IN YOUR JOB AS A MANAGER 1--2--3--4--5, and;

2. TO WHAT EXTENT WOULD YOU SAY THAT YOU ACTUALLY USE OR APPLY THE CONCEPTS YOU LEARNED IN NSC'S TEAM-BUILDING SEMINAR 1--2--3--4--5?

APPENDIX I

PHASE III EXTERNAL INTERVIEW QUESTIONNAIRE

MANAGERS INTERVIEW

Paraphrase the following:

SOME OF YOUR MANAGERS HAVE RECEIVED TRAINING IN COMMUNICATING, STRESS MANAGEMENT, OR TEAM BUILDING TECHNIQUES OVER THE PAST YOUR HERE AT NSC.

I AM DOING A FOLLOW UP EVALUATION TO SEE IF THE TRAINING HAS IN ANY WAY BEEN BENEFICIAL TO YOU OR YOUR MANAGERS, OR THEIR SUBORDINATES.

I'M GOING TO ASK YOU SOME QUESTIONS, AND WHEN I DO, TRY TO RESPOND AS SPECIFICALLY AS YOU CAN.

Begin here:

REMEMBERING THAT WHAT YOU SAY HERE WILL BE HELD IN CONFIDENCE, PLEASE ANSWER "YES," OR "NO" TO THE FOLLOWING STATEMENTS.

_____ HAVE ANY OF YOU MANAGERS WHO HAVE RECEIVED TRAINING IN COMMUNICATION (STRESS MANAGEMENT, OR TEAM BUILDING) HERE AT THE NAVAL SUPPLY CENTER EVER DISCUSSED WITH YOU ANY OF THE SKILLS THEY LEARNED IN THE CLASSROOM?

_____ ARE YOU GENERALLY AWARE OF THE TYPES OF SKILLS YOU MANAGERS HAVE RECEIVED FROM THE TRAINING IN COMMUNICATION (STRESS MANAGEMENT, OR TEAM BUILDING)?

_____ HAVE YOU ENCOURAGED YOUR MANAGERS TO TRY SOME OF THE SKILLS THEY LEARNED IN COMMUNICATION (STRESS MANAGEMENT, OR TEAM BUILDING)?

_____ DO YOU FEEL YOU HAVE GIVEN YOUR TRAINED MANAGERS THE TIME AND OPPORTUNITY TO APPLY SOME OF THE NEW SKILLS THEY RECEIVE IN COMMUNICATION (STRESS MANAGEMENT, OR TEAM BUILDING) TRAINING?

IF THE MANAGER BEING INTERVIEWED RESPONDS "NO" TO ALL OF THE ABOVE QUESTIONS, TERMINATE THE INTERVIEW, AND THANK THEM FOR THEIR ASSISTANCE.

IF THE MANAGERS ANSWERS "YES" TO ANY OF THE ABOVE QUESTIONS, CONTINUE THE INTERVIEW...

Continued on next page.

1. AS I LIST THEM, DESCRIBE (IF YOU CAN) AT LEAST THREE OR MORE TYPICAL WAYS YOU HAVE OBSERVED OR EXPERIENCED SITUATIONS IN WHICH ANY OF YOUR MANAGERS WHO HAVE RECEIVED TRAINING IN COMMUNICATION, STRESS MANAGEMENT, OR TEAM BUILDING USE ANY SKILLS THEY MAY HAVE LEARNED AND APPLIED ON THE JOB.

A. HAVE YOU NOTICED ANY DIFFERENCES IN THE WAYS YOUR TRAINED MANAGERS COMMUNICATE WITH YOU OR THEIR SUBORDINATES?

1.

2.

3.

B. HAVE YOU NOTICED ANY DIFFERENCES IN THE WAYS YOUR TRAINED MANAGERS HAVE ENGAGED IN MANAGING STRESS, OR ASSISTING OTHER TO MANAGE STRESS?

1.

2.

3.

C. ARE YOU AWARE OF ANY TYPE OF TEAM BUILDING OR GROUP ACTIVITIES THAT YOUR TRAINED MANAGERS HAVE USED OVER THE PAST YEAR?

1.

2.

3.

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