4-1987

Identification of Training Needs: A Focus Group Interview/Q-Sort Methodology

Michele Erb
Western Kentucky University

Erb,

Michele J.

1987

IDENTIFICATION OF TRAINING NEEDS:
A FOCUS GROUP INTERVIEW/Q-SORT METHODOLOGY

A Thesis Presented to
the Faculty of the Department of Communication and Theatre
Western Kentucky University
Bowling Green, Kentucky

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by
Michele J. Erb
April, 1987

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Recommended 4/17/87
(Date)

Larry M. Caillouet
Director of Thesis

Randall Capps

Kathleen S. Verderber

Approved 5-8-87
(Date)

Elmer Gray
Dean of the Graduate College

ACKNOWLEDGEMENTS

This thesis paper was developed and compiled with the assistance and guidance of several people. In particular, I would like to thank two members of my thesis committee: Dr. Larry Caillouet and Dr. Randal Capps, for their patience and understanding in dealing with a student who chose to conduct her thesis project at a site located over 200 miles away from the university.

To Dr. Kathleen S. Verderber, the third member of my thesis committee, I offer my humblest thanks and deepest gratitude for the assistance and guidance she has given me concerning this project. But the gifts Kathie has given me go far beyond the scope of this paper. This thesis was developed at a time in my life when I had great cause to doubt my own abilities and judgement. Not only did Kathie offer me a chance to grow as a student through the sharing of her knowledge and expertise, she also enabled me to grow as an individual as a result of her constant belief in and encouragement of the development of my abilities. Her mentorship and friendship has resulted not only in the completion of this thesis but in the restoration of my own self-esteem and belief in the possibilities that the future holds for me.

Much of the insight, and all of the factual information, about the research site was collected as a result of the assistance of the personnel manager at the research site. I thank him for his willingness to share his knowledge of the company with me and his faith in my ability to be a viable member of the research team.

When I began this project, my uncle, Michael Riedel, gladly offered me the services of his computer for my "school paper." After six months of hearing "Can I come over and work on my paper today?" he can finally have his most loved "toy" back. Without his generous contributions of equipment, time, and knowledge--not to mention all the free meals--this project would not have been possible.

The support of my family and their constant interest in this project was a great inspiration to me. In particular I would like to thank my sister, Diane Erb, for her patience in dealing with my odd hours and frequent mood swings, and my mother, Joan Erb, for allowing me to tell her about the latest details of my project--again.

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Department of Communications Western Kentucky University

In light of research that suggests that formal needs analysis leads to efficient and productive training programs, managers and a sampling of non-management employees from a mid-size manufacturing company participated in a needs assessment to determine future training needs for the company's mangers. The information was collected through focus group interviews and a Q-sort technique was developed to categorize the issues raised in the interviews. The categories of training issues and related concerns identified as a result of the focus group interview process were compared to a list of training topics generated by managers through an informal survey prior to the needs assessment. The comparison indicated that the training issues generated by managers in the informal survey were not congruent with the issues identified as a result of the needs assessment process. Comparisons were made between the major issues addressed by various departments, management levels, and functional groups. These comparisons indicated that some concerns were identified by all departments, management levels, and functional areas and could be defined as organizational concerns while other concerns were identified by specific departments, management levels, or functional areas.

CHAPTER I

REVIEW OF LITERATURE

Background

The "Training Magazine Industry Report 1986" indicates that formal training represented an investment by U. S. employers of about $29 billion in 1986 (Gordon). This figure includes salaries of in-house training staffs, dollars spent on hardware, off-the-shelf programs, custom-designed programs, seminars and conferences, outside services of consultants, and overhead expenses charged to training departments. The figure represents an 11.7 percent increase in dollars spent on training in 1986 as compared to dollars spent in 1985 (Feuer, 1986).

The same report estimates that 36.5 million people will receive formal, employer-sponsored training in 1987, representing an estimated time investment of 1.3 billion man-hours (Gordon, 1986).

Surveys indicate that over 90 percent of private corporations have some type of systematic training program (Goldstein, 1986) with some organizations spending as much as 15 percent of their total payroll on training activities (Wexley & Yukl, 1984).

Terminology

The American Society for Training and Development had 15 members in 1943, 5000 in 1967, 9500 in 1972, and 20,000 in 1980 (Goldstein, 1986). As the number of people in the training business changed so did the terminology they used. The term training was first replaced by the words training and development and then by the words most commonly used today, human resource development (HRD).

When training was just "training" very little training was actually done. Any training usually related to some new technique or procedure that was directly related to production. Today, HRD programs have expanded the concept of training to include more issues. These new HRD issues go beyond fixing what is broken or needs updating. In addition to providing remedies for performance weaknesses, HRD duties include enhancing strengths, seeking out opportunities for greater performance, anticipating and avoiding future problems, and creating new strengths (Brinkerhoff, 1986).

Reasons for expansions in HRD

The reasons for the increased organizational emphasis on training and the resultant expansions in the training field are two-fold. The first reason concerns certain environmental factors that make it advantageous for organizations to commit to extensive training programs. Personnel selection and placement by themselves do not ususally provide organizations with new employees skillful enough to meet the demands of their jobs adequately. There is mounting government pressure on modern organizations to train minorities. Experienced employees must sometimes be retrained because of changes in their job content due to automation, advances in computer technology, promotions, and transfers (Wexley & Yukl, 1984). To this list of environmental factors could be added such issues as the slowdown in the growth rate of the labor force, increasing occupational obsolescence, and evidence of growing intergroup conflict in the workplace (Tracey, 1984).

The second reason involves management's growing awareness that effective training programs can result in increased productivity, decreased absenteeism, reduced turnover and greater employee satisfaction (Wexley & Yukl, 1984). Programs are being offered on such topics as improving the interpersonal competence of managers, changing values so that human factors and feelings come to be considered legitimate, developing an increased understanding between and within working groups in order to reduce tensions, developing more effective team management, and developing better methods of conflict resolution (Bennis, 1966).

Many social scientists believe that in the near future the development of people and their satisfaction in meaningful jobs will become a corporate social goal that parallels the proper utilization of other, more easily measured resources such as time and money (Wiggins & Steade, 1976).

Change--the goal of training

According to Webster's New Collegiate Dictionary, to train means to develop or form the habits, thoughts, or behavior of (a person) by discipline and instruction or to make proficient by instruction and practice, as in some art, profession, or work.

The objective of training always involves change for the individual and often involves change for an organization as a whole. Changes may have already occurred that have brought on the need for training or the training itself may cause changes to come about. Nonetheless, the objective of any training program refers to the desired behavior of a trainee after undergoing the training (Goldhaber, 1986). With such large amounts of time and money being spent on training programs, managers are becoming more and more concerned about how best to ensure that training will result in a noticeable positive change in behavior at the workplace.

One method managers are utilizing is a shared power and problem-solving approach to change through which managers involve subordinates in the change process. Based on his studies of antecedents to planned organizational change, Greiner (1967) suggests that a shared power and problem-solving approach to change, involving as many employees as possible who will be affected by it, is more effective than when changes are simply decreed by top management.

There are three reasons why employee involvement in the change process is crucial. Those who are doing the work are more likely to know where their own problems are in regard to the change process. Secondly, they are best able to suggest solutions (Nadler, 1982). Not only does the training organization need information from the working organization in order to design effective training systems, but the training program needs to gain the cooperation of the working organization in order to have appropriate support for the training system that is later implemented (Goldstein, 1981). So the third, and most important reason for employees to be involved in the change process is that commitment to any resulting training is gained through the active participation of those concerned (Tracey, 1984).

If the entire organization or group effected by the change has participated in working through it, individual persons who may not have "bought into" the change on their own, may be motivated to change because it is perceived that the group wants him or her to change (Tosi et al. 1986). Although not all subordinates may aspire to participate in the change process, studies show that subordinates do desire the opportunity to participate (Gibson, Ivancevich & Donnelly, 1985).

In his article, "Getting Line Managers into the Act," Frank Hoffman (1981) goes so far as to suggest that not only the employees themselves but their immediate supervisors are commonly not consulted on training issues:

> Let's face it. In spite of all the literature about front-end analysis, criterion referencing and so forth, the vast majority of courses are still instituted without proper definition of the need or proper involvement of the trainees' bosses in validating the needs. (p. 68)

When trainers do not focus upon the people they are to address and design procedures without reference to trainees' points of view, their program--and therefore the change process--is in danger of being inappropriate and unsuccessful (Friedman & Yarbrough, 1985). Glaser and Taylor (1973) found that successful strides in training programs were characterized by highly motivated persons who developed, early in the program, a two-way communication network.

Getting Input From Employees

A historical perspective

Historically, employee input was rarely sought before managers committed to a training program. What management wanted subject to constraints of the budget was, and often still is today, the key factor used to determine what HRD issues were addressed and what specific training programs were offered.

For example, Wexley and Yukl (1984) are concerned about research that indicates that managers often feel that the latest methods are deemed worthy of implementation simply for the reason that they are the latest thing. Goldstein (1986) suggests that "educators have been seduced by programmed instruction, and industrial trainers by sensitivity training before they have determined the needs of their organization and the way these techniques could meet those needs" (p. 17). Managers are also commonly influenced by their associates as well. They may have heard associates discuss the success or failure of various programs in relation to their own employees. The manager may then determine that such a program would be beneficial to his/her employees (Wexley & Yukl, 1984).

A review of the literature indicates that there is little evidence demonstrating how accurately managers perceive the needs of their employees. Blake and Mouton (1980) suggest that upper management often responds to a "felt" rather than a real need.

Investment in employees is the single largest investment companies make, and the cost of that investment is continually rising. How people are managed, trained, and developed is being realized as a primary factor in earning a return on that investment. The mistake is made when a training program is implemented simply because management finds it appropriate and it fits the budget without taking into consideration the relationship between the dollars spent and the benefit of that particular training program to the employees and the organization.

The result may be the wasting of training dollars rather than the best utilization of limited funds.

A new perspective--the needs assessment

The questions concerning what training should be done and who should be trained in order to bring about a positive change at the workplace are now being answered through a process known as a needs assessment. A needs assessment utilizes the results of a detailed study of the organization that may include the use of tests and questionnaires, as well as face-to-face input from individual employees and management to determine the content of an HRD program.

The needs assessment may be conducted on one of three levels or a combination of the three. The three levels are (a) organization, or environment, analysis; (b) task analysis; and (c) person, or behavior, analysis (Goldstein, 1986).

The organization, or environment, analysis is the most important of the three. It is concerned with the system-wide components of an organization that may have an impact on a training program. This includes the examination of organizational goals--both short- and long-term--for the organization as a whole, as well as for its various divisions, departments and sections; resources of the organization; climate for training; and internal and external constraints present in the environment (Goldstein, 1986).

Research shows that change efforts have few, if any, positive effects when they are not compatible with the organizational culture (Tosi, Rizzo & Carroll, 1986). By determining the organizational climate and culture first and designing instructional programs with these issues in mind the training program is more likely to be relevant to and to transfer to the work environment (Goldstein, 1986).

Studies done by Lynton and Parceek (1967) demonstrate that management often assumes that the trainer contracted understands the needs of their employees who are participating in the program and the needs of the organization, and that the course will indeed meet these needs. This is a highly debatable issue based on such things as the culture and climate of the organization, the specific dimensions of the problems being addressed and the amount of exposure the trainer has had to the organization.

The organizational analysis is most commonly done through the use of focus group interviews, often supplemented by questionnaires.

Training has little significance when it is not closely related to the attainment of expected performance standards. The goal of the task analysis is to discover what the expected standards are and the goal of the person analysis is to determine where performance fails to measure up to them (King, 1964).

The task analysis is used to determine the instructional objectives that are related to the performance of particular activities or job operations (Glaser & Taylor, 1973). It is commonly done by making task descriptions for specific jobs and developing task statements to determine relevant task dimensions (Goldstein, 1986) or by conducting a critical incidents analysis.

The person analysis is used to measure criteria which are indicators of performance. It's objective is to determine whether or not individuals have the skills for the job and if they do not, if they can be trained. Teaching skills is a very large part of training programs. These programs should be designed in light of the organizational objectives identified through the organizational analysis.

Input collected from employees, by the most appropriate method, is analyzed and interpreted by needs assessment specialists. Once interpreted and analyzed the results are presented to management for use in determining solutions to HRD issues. Needs identified in the assessment phase may be both learning (or trainable) needs and nonlearning (or development) needs (Steadham, 1980). Such nontrainable factors as faulty equipment, inefficient work procedures, and low wages may be causing the problems (Wexley & Yukl, 1984). The needs analysis should provide insight into alternatives to training. Management must ask whether training or something else might better address a need or problem--or whether training plus something else is indicated (Brinkerhoff, 1986).

The Data Collection Process

Ideally, all employees participate in the needs analysis process but a representative sample is often used. Feeney (1972), Vice President of System Performance at Emery Air Freight, says the key to the success of the needs assessment process and any subsequent training is directly related to the degree of involvement by the individual employees who will eventually be participating in the training programs:

> People basically have an infinite variety of solutions (to their own problems)--some better than others. They know how to correct problems. The problem is that they don't know that the problem exists. Problem finding, not problem solving is the biggest hang up (companies have). How do you find the problem--feedback, ask the employees. (p. 8)

Surveys are the most common method of obtaining the feedback from employees. Surveys provide access to the reactions of members of the organization concerning events which occurred in the past and provide information which is very reliable and valid if the design and implementation is good, but the information is subject to distortion both by the person doing the surveying and the person responding to it (Dunham, 1984). Questionnaire and interviewing techniques are used to conduct the surveys.

Questionnaires are useful for providing quantifiable data to support training program design. A large number of people can be contacted in a short amount of time. They are relatively inexpensive and, they provide anonymity for the respondent. But questionnaires have the disadvantage of not taking into account some important environmental considerations. There is limited or no opportunity for free expression of unanticipated responses or elaboration through open-ended responses. It is very time consuming to develop effective instruments and even with good instruments, the results are of limited utility in getting at causes of problems or possible solutions (Steadham, 1980).

Factors such as low return rates, grudging responses, and unintended or inappropriate responses affect the reliability of the questionnaire (Babbie, 1986). If sampling is being used, individual needs or needs specific to certain departments or areas may not surface (Dunham & Smith, 1979). More often than not, questionnaires designed to determine employee needs and attitudes are purchased as a ready-to-use tool and are not designed with any particular organization in mind. The particular questionnaire purchased may not be compatible with the situation at the organization.

In contrast to a written questionnaire, an interview is a conversation with a purpose. It can be conducted on an individual basis or in a focus group atmosphere where employees with similar interests, job duties, or titles address their mutual concerns. They are typically expensive and time consuming, and the data is subject to error due to personal idiosyncracies (Klein & Ritti, 1984). Response rates are higher because respondents are less likely to refuse to respond in a face-to-face situation as opposed to being asked to write the responses on a form (Babbie, 1986). Interviews are good tools for revealing feelings, or causes of and possible solutions to problems which members of the organization are facing or anticipating. They provide maximum opportunity for the client to represent himself spontaneously on his own terms (Steadham, 1980). The challenge for the interviewer is to remember that the purpose of the interview is to enter into the world of others, to perceive it as they do, and not to be judgemental (Friedman & Yarbrough, 1985).

Lee G. Verheyen, Organizational Development Administrator for the city of Phoenix, conducted interviews with employees as part of a needs assessment process and supported his findings through a questionnaire. Verheyen reported that the interview procedure, not the questionnaire, provided the major benefit which was gaining the support of the subsequent program offerings, and involvement in and ownership of the employee development programs by participants (Olivas, 1979).

From a communications perspective, the main disadvantage of the questionnaire method of data collection lies in the inherent one-way communication process. The interview method provides an alternative method which utilizes two-way communication to provide an opportunity for interaction, as well as reaction to and clarification of a vast amount of detailed information. Interviewers or other members of the focus group can probe, provide clarification for confusing items, and observe during the interview (Babbie, 1973).

The communication theory supporting the value of information obtained through data collection based on interaction among group members is rooted in symbolic interactionism and information theory. One of the basic theoretical propositions of symbolic interactionism is that "the individual becomes humanized through interaction with other persons" (Manis & Meltzer, 1978, p.437). George Herbert Mead (Littlejohn, 1983) was the first symbolic interactionism theorist. He believed that people saw themselves as others saw them.

> The person internalizes this general self-view and behaves consistently with it. Through the process of mind, the person plans and rehearses symbolic behavior in preparation for interaction with others. (p.50)

Herbert Blumer (Littlejohn, 1983) expanded on Mead's theory and developed his own version of symbolic interactionism based on three premises:

> (1) Human beings act toward things on the basis of the meanings that the things have for them; (2) the meaning of such things is derived from, or arises out of, the social interaction that one has with one's fellows; (3) these meanings are handled in, and modified through, an interpretive process used by the person in dealing with the things he encounters. (p. 50)

The interview process allows the interviewer to experience the symbolic interactions of the participants in their own terms. A questionnaire forces the symbolic interactions of the participants to fit the terminology of the questionnaire. That terminology is based on the symbolic interactions of the researcher or author of the questionnaire rather than those of the participants.

While symbolic interactionism is based on the premise that no human action stands apart from interaction, information theory is based on the premise that persons use information in messages to reduce uncertainty and thereby adapt to the environment (Littlejohn, 1973).

According to information theorists Claude Shannon and Warren Weaver (Littlejohn, 1983):

> Information is a measure of uncertainty .... The greater the uncertainty, the more the information. When a situation is completely predictable, no information is present. (p. 116)

Communication provides information, thus reducing the uncertainty in a situation. Communication in a focus group setting allows the group to begin the discussion with a high level of uncertainty. The situation is totally unpredictable and therefore has the potential for providing a wealth of information. The use of a questionnaire brings a high degree of predictability to the situation. The number of outcomes or choices are limited and the situation provides less information.

The sharing of symbolic interactions in an unpredictable, unstructured, setting allows for the collection of more information than could be obtained by surveying each participant independently. This outcome of group interaction is known as "the assembly-effect bonus" (Burgoon, 1974). The assembly-effect bonus is based on empirical studies that demonstrate the group as the most efficient method of obtaining information. If a group's product, in the form of material productivity or idea productivity, is greater than the combined product of the same number of people working alone, the extra product is the bonus. Idea generation is one area in which there is an assembly-effect bonus. When group interaction is effectively utilized, the group solution or product is superior to the individual work of even the best member (Collins & Grietzkow, 1964).

When data are generated solely from the group the key problem areas are identified through group consensus. This method of data collection can produce rich data that has validity for the group, face validity in particular, since the group created the data in the first place. Consequently, the reasons for any subsequent training will have more substance than if an outsider gathered the data through a questionnaire (Klein & Ritti, 1984).

Special considerations concerning group dynamics, such as conformity, also affect the amount of and validity of the information obtained through focus group interviews. In a needs assessment process, conformity has a negative effect on the group interaction if group members conform due to compliance (when people conform in spite of their own beliefs and preferences), or identification (when people conform because they respect or are attracted to others who support a particular idea). But conformity can be a positive aspect of group involvement when it is due to internalization. Internalization is when people accept ideas because they are consistent with their beliefs and values, and influence is successful because the desired behavior is intrinsically rewarding to them (Tosi et al. 1986). When the group interaction brings about the discussion and internalization of issues previously unaddressed by some members, these members are more likely to be committed to subsequent training than if the issue had never been addressed.

When interviewing is used, the coding of the responses is essentially an instance of content analysis. Responses to open-ended questions are recorded in the subject's own words and then coded into types of answers (Babbie, 1973). Content analysis is any technique for making inferences by systematically and objectively identifying specified characteristics of messages (Holsti, 1968).

Training continues to be an important issue and management continues to seek new and better ways of utilizing their training dollars while addressing the changing and expanding issues of Human Resource Development. Although the training needs assessment process is recognized as a positive alternative to management identification of training issues when the objective of the training program is to bring about positive change in the workplace, limited research has been done on the extent to which managers are able to accurately assess the training needs of their employees.

Utilizing a focus group in which employees are interviewed in homogeneous groups is recognized as a method of obtaining a wealth of information in an atmosphere where the researcher can experience organizational interactions firsthand, but the focus group method raises a unique question. A review of the literature brought forth no empirical evidence demonstrating whether or not this type of interviewing method results in the collection of data that is so group specific that company-wide issues do not surface.

The Research Questions

This study is designed to use a communication-based methodology, specifically focus group needs analysis, in the identification of training needs at a particular research company. The research is guided by two unanswered questions resulting from the literature review that deserve further consideration:

1) To what extent are the training needs perceived by managers as expressed in an informal survey congruent with training needs expressed by

employees/managers who are asked to identify needs through a focus group interview methodology?

Prior to conducting this study, the personnel manager, at the company which served as the study site, asked managers to complete an evaluation on past training programs and include suggestions for future programs. In this paper, the researcher will compare the list of training topics suggested by the managers as a result of this informal survey to the list of training concerns identified by the employees at the company as a result of a focus group method for needs assessment.

2) To what extent does a focus group needs analysis provide information that is common to all organizational members versus information that is specific to a subunit?

This research question will be addressed by determining the extent to which the needs identified were local concerns or concerns only in a particular functional area, department, or management level versus those common needs identified as global concerns or concerns by all or most functional areas, departments, or management levels.

CHAPTER II

METHODOLOGY

The Research Company

The research site

The study detailed was conducted at a company, hereafter referred to as Acme Inc., that manufactures production machinery for Fortune 500 companies. While all machines are based on the same engineering principles, there is no assembly line work rather unit technology is utilized. Acme markets, engineers, and builds the machines, including start-up, installation, and servicing at the customer's home site as well as continuous quality control monitoring.

Approximately 450 people are employed at Acme--430 of whom are located at the main facility. The remaining employees are located in sales offices around the world. Seventy-six of the Acme employees are considered managers, although not all managers are supervising other employees.

The company is presently in a transitional period during which the current CEO is gradually passing on his responsibilities to others as he nears retirement. Managers are being asked to take on increasing responsibilities.

The organization's work force is stable. The average tenure of an employee at Acme is 13 years and most managers are 45-50 years old.

Background information about the Training Needs Assessment Project

In order to meet the needs of their managers and enable them to have the opportunity to develop the skills needed to deal with the future, the company has enlisted the help of a local university's Professional Development Office. For the two years prior to this project Acme managers have utilized the expertise of this local university's professors to provide training seminars geared to topical areas which the Personnel Department at Acme believed to be important. Each topic was presented by a different faculty member whose previous knowledge of the company was limited.

At the conclusion of the 1986 program, the personnel director surveyed the managers of the firm to develop a list of topics for future training programs. Twenty-four managers, representing a cross section of the company, responded to this open-ended request. They identified 14 topics. In anticipation of the 1987 program, the personnel director contacted the director of the Professional Development Office of the university, and shared this list of possible training topics. The director of the Professional Development Office contacted a member of this research team (a faculty member at the university hereafter referred to as Researcher 1) to discuss her willingness to deliver one such training program at Acme.

After gathering information about the company, investigating past training programs at Acme, and the method by which the current list of topics had been developed, Researcher 1 proposed conducting a formal training needs assessment.

This proposal by Researcher 1 was made on the basis of the following goals:

1. Having exposed managers, over the past two years, to 44 hours of broadbased management training the company needed to focus its training efforts on one or two areas of concern per year.

2. The list generated by the informal survey may not have identified systemic needs due to the low response rate.

3. Since it was the general perception of top management that the long-term growth and development of the company depended on increasing levels of decision making and participation among employees, needs analysis might be useful for identifying areas where focused training could improve managerial competence.

4. Since managers were in the best position to articulate their needs for training, useful program development needed to include their input.

5. A comprehensive needs analysis would provide useful information to those responsible for the planning and evaluating of management seminars.

6. The design of the needs analysis would be made within a participatory framework in which managers could actively influence the manner in which needs data were collected. This involvement would help to insure participation in subsequent seminars.

7. In order to develop commitment to the needs analysis process and the role played by managers in its design, managers would need to be aware of the effective use of participation in decision making.

Acme management agreed that a needs analysis should be conducted in order to determine the content of the 1987 and perhaps subsequent management training programs. It was at this point that the author of this thesis, hereafter referred to as Researcher 2, joined the project and participated in the design of the study, the data collection, and the analysis procedures.

The Introductory Seminar

The goals

An introductory workshop was conducted by Researcher 1, aided by Researcher 2, and attended by Acme managers in order to accomplish goals five and six above.

The goals of the seminar were (a) to provide an opportunity for the researchers to meet with the management at Acme and an opportunity for the researchers to share their perceptions about how Acme managers could best meet the challenges of the future through their management training program; (b) to deliver a program on the Vroom-Yetton Model of Decision Making (Vroom & Jago, 1978); and (c) to build commitment to the needs analysis process and to the seminars that would be designed based on the results of the needs analysis by using the principles of the Vroom-Yetton Model to determine the composition and participants of the focus groups used in the needs analysis.

Managers' input

After training the managers in the usefulness of the Vroom-Yetton Model of Decision Making, managers were divided into groups of five to eight people and asked to address the following questions:

1. Who should be interviewed?

All managers? A sample of them? All employees? A sample of them?

2. How should the interview groups be configured? Who would people be most comfortable with?

Homogeneous groups within each unit? Hierarchically (horizontal)? Levels of management grouped together (vertical)? Random assignment?

3. How long a period of time will be needed for group interviews?
4. How should results of the interviews be communicated back to Acme?
5. How should the information be shared with managers?
6. Who should be involved in the actual training program planning?

Each group was asked to newsprint their responses, and these were subsequently posted on the walls around the room. After all managers had viewed the responses of each group, the managers came back together and discussed the results. Consensus on each issue was obtained.

The managers decided that all managers and a sample of hourly employees should participate in the focus group interviewing. Hourly employees should include one to five representatives from each work group, depending on the number of employees in each work group. Although the number of hourly employees to be interviewed would be recommended by the managers, the managers would not be selecting the particular employees who would participate--rather, this decision would be left to the researchers and the personnel department.

Concerning question 2, it was decided that hourly employees should be interviewed separately from managers. Managers wanted a few days to decide about what kind of group arrangement they should be interviewed in. They decided to give the personnel manager this feedback four days later. They eventually decided to be interviewed in groups where members were homogeneous with respect to function and level in the hierarchy.

The managers also decided that each group would be interviewed in a single one-two hour meeting; the group could then decide whether or not additional time would be needed they to digest the information discussed and to come back for a second meeting.

Questions 4 and 5 were considered together in the large group consensus discussion. Managers decided that summary reports would be compiled and presented to management by the researchers with patterns emphasized.

The managers also decided that the researchers plus a four-person Advisory Committee would be involved in the planning of the training program. (The Advisory Committee is a group of employees that the Personnel Manager asked to take part in the design of the training program prior to the decision to hire consultants to do the needs assessment.) Anyone else interested in being on the Advisory Committee was asked to contact the Personnel Manager by Wednesday of that week. One manager did respond and became the fifth member of the Committee. (For detailed results of the responses of each of the seven small groups see Appendix A.)

Data Collection

Setting up the interviews

After the introductory seminar, the researchers met with the personnel manager to work out the mechanics of how the focus group interviews would be conducted.

Based on feedback obtained from the introductory seminar, a sampling of the hourly employees was agreed upon and the composition of the management focus groups as well as the non-management groups. The 29 non-management and 71 management participants were grouped according to the following distribution: three engineering groups including engineering managers and assistant engineering managers, three manufacturing groups including manufacturing supervisors and assistant manufacturing supervisors, three marketing groups including marketing managers and marketing department heads, two groups of managers whose functions were related that included general office managers and production managers, one group of production and engineering department heads, and four non-management groups including two groups from production, one group from the office, and one group from engineering.

The interview sessions

Over a two-week period, all 16 groups were interviewed on site at Acme's main facility. Each session was led by one of the researchers with both researchers attending all 16 sessions.

As the participants arrived for their focus group interviews, the researchers greeted and talked informally with them until everyone in the group was assembled. If any of the group members had not attended the introductory seminar, or if it was a non-management group, the researchers introduced themselves, briefed the group members on the background of the project and introduced the focus group procedure.

The following introduction was used (appropriate modifications were made when addressing the non-management groups):

> As we discussed at the introductory seminar, the purpose of these meetings is to collect information on topics that might be useful in the management training seminars at Acme. We are interested in anything you would like to talk about concerning the work procedures at Acme.
>
> We want to assure you that what is said in this room will be completely confidential. When all the group interviews are completed we will categorize and summarize the discussions from all the groups into a report to the Training Advisory Committee. This should help us identify patterns but in no way will anything be reported in a manner in which participants or their responses can be identified. We are going to try to identify, for the Training Advisory Committee, those issues that need to be addressed in the management training seminars.
>
> While we don't have any specific questions to ask, we'd like to hear you, as a group, discuss both specific and general problems or issues that you face as managers, issues which you think that educational programs or specific skill training might help you address or make you more effective or more comfortable in your job.
>
> We will be writing down the issues you bring up on the newsprint hanging around the room. We won't be taking any other notes. We want to make sure that all of you know exactly what information we are taking out of this room. Please feel free to ask us to add or delete anything that effects the accuracy of the information.
>
> This is your session. Where do you want to start?

The researchers redirected the discussion at times and asked for clarification when needed; but, in general, the participants of each group determined the subject matter. The researchers stopped the discussion when the two-hour scheduled time period was up, but several groups made arrangements to change their schedules so that the discussion could continue past the two hours allotted. No group requested a second session.

The "Q-Sort" Process

A Q-sorting technique was used to categorize the ideas collected at the sessions. All of the newsprinted ideas were typed up, word-for-word from the newsprint, and listed according to group. These lists were then broken down and put on index cards. Each index card contained one topic and any subtopics or related ideas discussed in connection with that topic. Topics from each group were put on cards independently of all other groups so if the same topic was brought up by several groups it would be placed on a separate card each time--each time taken word-for-word from the newsprinted sheets. The cards were coded on the back so that after the sorting process it could be determined which cards originated from which focus groups. A sample of the topics that were placed on cards can be found in Appendix B.

The two researchers began the sorting process independently, with no set categories. They sorted the cards into categories where all cards in one category seemed to represent the same general theme. When both researchers completed the sorting process they compared their findings to see how closely their categories matched. All the cards upon which they did not agree were mixed back together and a second sorting process took place.

Prior to the second sort the researchers discussed the data and agreed on the headings for categories. They then sorted the remaining cards using these categories. After the second sort, cards upon which there was still disagreement were discussed one at a time, and agreement was reached on an appropriate category placement. During this final sort cards which could not be agreed upon as belonging to a particular category were placed in a separate category.

CHAPTER III

RESULTS

Results of the Sorting Process

The issues brought up in the focus group interviews were each placed on a separate card resulting in 386 cards to be sorted. The categories that emerged and the number of cards upon which researchers' agreed through each iteration of the sorting process are presented in Table I (page 27).

After the first sort the researchers had independently identified eight categories that they had titled and sorted similarly. Of the 386 cards, 153 or 39.6 percent of the cards were agreed upon by both researchers after the initial sort. Before doing the second sort five more categories were established.

The 233 cards that had not been agreed upon were again independently sorted using all 13 categories. After the second sort, 234 cards or 60.6 percent of the cards were agreed on. One additional category was established and the remaining 152 cards were discussed one by one until consensus was reached upon appropriate placement in one of the 14 categories. After the final sort, 14 cards were determined to contain issues that did not fit appropriately into any of the

TABLE I
NUMBER OF TOPICS UPON WHICH RATERS REACHED AGREEMENT DURING EACH Q-SORT

	1ST SORT*	2ND SORT*	FINAL SORT*
1. DEPARTMENT INTERFACES	33	41	58
2. STRATEGIC PLANNING	37	44	51
3. SCHEDULE	19	28	31
4. RESPONSIBILIITY/AUTHORITY	18	18	22
5. PERFORMANCE STANDARDS	13	14	20
6. POM/MIS	10	13	20
7. PARTICIPATION	10	14	17
8. MEETINGS	13	13	14
9. STAFFING/MANPOWER/TEMPS		14	22
10. CHAIN OF COMMAND		13	22
11. TRAINING GRIPES		9	9
12. SPECIAL GROUPS		8	8
13. MODES OF COMMUNICATION		5	8
14. SUPERVISOR STYLE			70
15. MISCELLANEOUS			14
TOTALS	153	234	386
PERCENT AGREEMENT	39.6	60.6	100

*The numbers listed under the columns "1ST SORT" and "2ND SORT" represent the number of cards in each category that both researchers had sorted into that category independently. The cards that both researchers had not sorted into the same category were put aside for the next sort. The numbers listed under the column "FINAL SORT" represent the number of cards in each category after the cards that were not sorted the same by both researchers after the second sort were discussed and concensus reached on their placement.

established categories and did not relate to each other. These were assigned to a 15th category labeled "Miscellaneous."

The results of the rater agreement are presented in Table II (page 29). The reliability between the two researchers' sorting process is especially evident when only the cards placed in the eight categories both researchers established independently during the first sort are considered. As shown in Table II, 65.7 percent of the cards placed in these categories after the final sort were already agreed on after the first sort. Examined individually, each of these eight categories had between 45 and 90 percent of the cards finally agreed on correctly sorted in the first iteration.

In Table III (page 30) a comparison is made between the rater agreement results from the second iteration and the final placement. After the second sort 79.4 percent of the cards placed in the first eight categories were agreed on. The fact that these categories were so accurately sorted suggested to the researchers, early in the analysis process, that there were several major issues that were widely discussed in the interviews and that since the researchers had both observed this discussion, and performed the sort, accuracy in placement of the issues was increased.

Of the total cards finally placed in the 13 categories used in the second sort, 77.5 percent of them were accurately placed after the second sort. The change in the percent of the total cards accurately placed after the first sort compared to those accurately placed after the second sort was 13.7 percent when considering only the first eight categories and 11.8 percent when considering all 13 categories.

TABLE II
PERCENTAGE RATER AGREEMENT, IN THE FIRST EIGHT CATEGORIES ON NUMBER OF TOPICS IN EACH CATEGORY AFTER THE FIRST SORT COMPARED TO TOTAL NUMBER OF TOPICS FINALLY PLACED IN EACH CATEGORY

	NUMBER OF CARDS IN EACH CATEGORY AFTER 1ST SORT	NUMBER OF CARDS IN EACH CATEGORY AFTER FINAL SORT	PERCENT OF TOTAL IN EACH CATEGORY
1. DEPARTMENT INTERFACES	33	58	56.9
2. STRATEGIC PLANNING	37	51	72.5
3. SCHEDULE	19	31	61.3
4. RESPONSIBILITY/AUTHORITY	18	22	81.8
5. PERFORMANCE STANDARDS	13	20	65
6. POM/MIS	10	22	45.4
7. PARTICIPATION	10	17	58.8
8. MEETINGS	13	14	92.8
TOTALS	153	233	65.7

TABLE III

PERCENTAGE RATER AGREEMENT, IN THE FIRST EIGHT CATEGORIES, ON NUMBER OF TOPICS IN EACH CATEGORY AFTER THE 2ND SORT COMPARED TO TOTAL NUMBER OF TOPICS FINALLY PLACED IN EACH CATEGORY

	NUMBER IN EACH AFTER 2ND SORT	OF CARDS CATEGORY AFTER FINAL SORT	PERCENT OF TOTAL IN EACH CATEGORY	CHANGE IN PERCENT AGREEMENT BETWEEN 1ST & 2ND SORT
1. DEPARTMENT INTERFACES	41	58	70.7	13.8
2. STRATEGIC PLANNING	44	51	86.3	13.9
3. SCHEDULE	28	31	90.3	29
4. RESPONSIBILITY/AUTHORITY	18	22	81.8	0
5. PERFORMANCE STANDARDS	14	20	70	5
6. POM/MIS	13	20	65	19.6
7. PARTICIPATION	14	17	82.3	23.5
8. MEETINGS	13	14	92.8	0
9. STAFFING/MANPOWER/TEMPS	14	22	63.6	
10. CHAIN OF COMMAND	13	22	59.1	
11. TRAINING GRIPES	9	9	100	
12. SPECIAL GROUPS	8	8	100	
13. MODES OF COMMUNICATION	5	8	62.5	
TOTALS (all categories)	234	302	77.5	11.8
TOTALS (first eight categories only)	185	233	79.4	13.7

Description of Sorting Categories

Although most of the categories that emerged concerned issues for which training is appropriate, several non-training categories were also identified. (For examples of issues from various categories see Appendix B.) The training categories were "Department Interfaces," "Strategic Planning," "Responsibility/Authority," "Performance Standards," "Participation," "Meetings," "Chain of Command," "Modes of Communication," and "Supervisory Style."

The Department Interfaces category was one of the largest in terms of number of comments and included several issues. Issues in this category included project management, interdepartmental trust, competition, shared knowledge of problems and solutions, project monitoring, and problems of coordination caused by differentiation.

The Strategic Planning category included issues of executive management succession, company priorities, planning processes, vision, goals, and criteria for individual and departmental success.

Issues categorized under Responsibility/Authority included decision making, decision communication, peer-relationships, accountability, "buck passing," and "finger pointing."

The Performance Standards category included issues about performance reviews, performance criteria, relationships between performance and raises, performance inconsistencies, recognition of good performance, and criticism of poor performance.

The Participation category included issues about how well or poorly the newly introduced concept of participatory decision making was being utilized and accepted in the company.

The Meetings category included issues related to the manner in which the meetings were being conducted, the number of issues being addressed through the meetings, and subordinates' frustrations with the unavailability of managers due to the number of meetings being held.

The Chain of Command category included issues of hierarchical communication processes including formal and informal networks and channels, both upward and downward.

The Special Groups category included issues dealing with protected groups including older workers and women.

The Modes of Communication category included issues of both oral and written communication skills.

The Supervisory Style category contained a large number of issues which the researchers agreed related to supervisory or managerial "people skills." It included mentoring, supervisor/subordinate relationships, disciplinary practices, negotiating, interpersonal communication, managerial leadership, and motivation.

The non-training categories were "Schedule," "POM/MIS," "Staffing/ Manpower/Temporary Help," and "Training Gripes."

The Schedule category included concerns about the current scheduling protocol. These issues centered around schedule planning, criteria for schedule changes, communication of schedule information, scheduling slack-time, and anticipating scheduling problems.

POM/MIS stands for "Production Operations Management/Management

Information Systems." This category included issues of documentation, industrial management, work-flow process, and use of data processing and computer facilities and capabilities.

The Staffing/Manpower/Temporary Help category included issues concerning the misutilization of the special skills of employees, understaffed versus overstaffed departments, the effectiveness of and training of temporary help, shift overlaps, and overtime issues.

Training Gripes included issues related to prior training programs and needs for limited technical training in specific areas. A small number of isolated concerns were grouped as "Miscellaneous."

These categories discussed by the functional groups were comprised of issues expressed in various terms. For example, in the Scheduling category non-management employees said, "We are spending most of our time putting out "fires" or walking from one fire to another." (The term fire referred to a problem.) First-line manufacturing supervisors talked about "scheduling crunches and pressures." The engineering managers asked "Could scheduling slack time be beneficial?" Production and personnel managers said "We are overly optimistic on our quoted delivery dates." Marketing managers wanted to know how they could "estimate glitch time" so they could give accurate delivery dates to their customers. The production and engineering middle managers said "When our estimates are optimistic we always fail to meet the delivery date.'

The Participation issues were also expressed in various terms. Non-management employees asked "Why ask my opinion if it isn't considered in the decision?" First-line manufacturing supervisors said they felt that participatory management was preached but not really practiced. Engineering managers said "Efforts to consult were seen as being asked to decide." Production and personnel managers said that employees now have "voice" but they don't utilize it. The marketing managers simply said they saw the participation concept as a new idea. The production and engineering middle managers asked "How do you practice delegation without saying 'do it my way?'"

Strategic Planning issues were heard in many different voices. The non-management groups asked "What happens after the CEO retires?" The first-line manufacturing supervisors asked how to deal with "changes in work priorities." Engineering managers said "Corporate goals and objectives are unclear, therefore they cannot guide our decision making." The production and personnel managers were concerned with how to "deal with the new regime." Marketing managers said that a marketing plan for the future did exist but if a company-wide plan existed it was not known at their level. Production and engineering middle managers said "Some mangers set their own goals but how do we know these are the right ones for the company?"

The Department Interfaces category encompassed many concerns. Non-management employees suggested that "Shop experience could be helpful for engineers when it is in the area they will design in." First-line manufacturing supervisors complained that "Manufacturing skills are not being utilized." Engineers said they needed "concurrent control mechanisms" during design phases. Production and personnel managers said it would be helpful to have "interdepartmental input on projects before implementation." Marketing managers said that project management skills were used as an exception and asked "What is the criteria for their use?" The production and engineering middle managers said they needed "greater knowledge of other functions--their headaches, their time frames, their work loads."

Results of the Research Questions

Results of the first research question

The first question guiding this research asked: To what extent are the training needs perceived by managers as expressed in an informal survey congruent with training needs expressed by employees/managers who are asked to identify needs through a focus group interview methodology?

At the conclusion of the Spring 1986 training program, 24 managers, representing a cross section of all functional areas, responded to the personnel manager's open-ended request for suggestions of topics for future training programs. The opinions of non-management employees were not sought in this informal survey. Table IV (page 36) lists the 14 areas of concern identified by at least one of these managers as compared to the categories established through the focus group interviews. Six of the issues established in the focus group interviews were mentioned in the informal survey but eight of the issues were not.

It is interesting to note that several of the suggestions for training programs generated through the personnel manager's informal survey may be considered symptoms of or subsets of a larger area of concern identified during the needs analysis process. These are grouped together in Table IV to show the relationship between the issues. For example, the managers' survey category of "Participative Management" was identified by the focus group interview process as Participation, while the survey categories titled "Management by Objectives,"

TABLE IV
RESEARCHERS' CATEGORIES OF TRAINING NEEDS AND RELATED CONCERNS COMPARED TO TRAINING NEEDS AS PERCEIVED BY MANAGERS

RESEARCHERS' CATEGORIES RESULTING FROM SORTING PROCESS	TRAINING NEEDS AS PERCEIVED BY MANAGERS PRIOR TO NEEDS ASSESSMENT
1. DEPARTMENT INTERFACES	
2. STRATEGIC PLANNING	
3. SCHEDULE	
4. RESPONSIBILIITY/AUTHORITY	1. DECISION MAKING
5. PERFORMANCE STANDARDS	2. MANAGEMENT BY OBJECTIVE 3. PERFORMANCE REVIEWS 4. EXPECTATIONS OF MANAGERS
6. POM/MIS	
7. PARTICIPATION	5. PARTICIPATIVE MANAGEMENT
8. MEETINGS	
9. STAFFING/MANPOWER/TEMPS	6. STRESS
10. CHAIN OF COMMAND	
11. TRAINING GRIPES	
12. SPECIAL GROUPS	
13. MODES OF COMMUNICATION	7. COMMUNICATION SKILLS 8. INTERVIEWING
14. SUPERVISOR STYLE	9. MOTIVATION 10. CHANGE MANAGEMENT 11. CONFLICT MANAGEMENT 12. NEGOTIATING
15. MISCELLANEOUS	13. QUALITY OF WORK LIFE 14. MANAGEMENT THEORY

"Performance Reviews," and "Expectations of Managers" were categorized as symptoms of the larger concern of Performance Standards in the focus group interviews. The survey categories titled "Motivation," "Change Management," "Conflict Management," and "Negotiating" were all Supervisory Style issues in the focus group interviews. While there is no doubt that stress is a major factor in this organization, needs analysis revealed it to be a symptom of other issues such as Scheduling and Staffing/Manpower/Temporary Help. "Decision Making" was identified during the focus group interviews as a subset of the Responsibility/Authority category.

The distribution of the number of managers in each functional area that identified each issue as a concern through the informal survey is presented in Table V (page 38). The distribution of the concerns by functional area as a result of the needs assessment is presented in Table VI (page 39). The 16 original interview groups were combined for statistical purposes to form the six groups in Table VI because several of the 16 groups consisted of employees in similar functional areas and management levels but these employees had been broken down into

smaller groups to provide the best possible interview situation. Specifically, the four non-management groups were grouped together, two groups of manufacturing supervisors and one group of assistant manufacturing supervisors were grouped together, two groups of engineering managers and one group of assistant engineering managers were grouped together, one group of production managers and one group of personnel managers were grouped together, and two groups of marketing managers and one group of marketing department heads were grouped together. The production and engineering middle managers group was considered one group.

TABLE V
NUMBER OF MANAGERS THAT SUGGESTED EACH TRAINING TOPIC BY DEPARTMENT

	n=7 MANUFACTURING MANAGERS	n=6 ENGINEERING MANAGERS	n=4 PRODUCTION AND PERSONNEL MANAGERS	n=7 SALES AND MARKETING MANAGERS	n=24 TOTAL	PERCENT OF TOTAL
1. DECISION MAKING	0	2	2	2	6	9.4
2. MANAGEMENT BY OBJECTIVE	2	3	0	2	7	10.9
3. PERFORMANCE REVIEWS	1	3	2	1	7	10.9
4. EXPECTATIONS OF MANAGERS	1	0	0	0	1	1.6
5. PARTICIPATIVE MANAGEMENT	2	3	1	6	12	18.7
6. STRESS	0	1	0	0	1	1.6
7. COMMUNICATION SKILLS	3	1	1	2	7	10.9
8. INTERVIEWING	1	0	0	0	1	1.6
9. MOTIVATION	1	2	0	3	6	9.4
10. CHANGE MANAGEMENT	0	1	1	3	5	7.8
11. CONFLICT MANAGEMENT	0	2	2	0	4	6.2
12. NEGOTIATING	0	0	0	1	1	1.6
13. QUALITY OF WORK LIFE	1	1	1	0	3	4.7
14. MANAGEMENT THEORY	2	0	1	0	3	4.7
TOTALS	14	19	11	20	64	
PERCENT OF TOTAL	21.9	29.7	17.2	31.2		100

TABLE VI - NUMBER OF TOPICS IN EACH CATEGORY BY FUNCTIONAL AREA AS DETERMINED BY FOCUS GROUP INTERVIEWS

	n=29 NON MGT.	n=19 1ST LINES MANUF.	n=18 ENG. MGRS.	n=10 PRD. & PERS. MGRS.	n=17 MKT. MGRS.	n=7 PRD. & ENG MID MGRS.	n=100 TOTAL	PERCENT OF TOTAL
1. DEPARTMENT INTERFACES	8	10	11	4	11	14	58	15
2. STRATEGIC PLANNING	6	1	6	5	18	15	51	13.2
3. SCHEDULE	15	6	3	1	5	1	31	8
4. RESPONSIBILIITY/AUTHORITY	13	2	2	1	1	3	22	5.7
5. PERFORMANCE STANDARDS	11	2	2	1	2	2	20	5.2
6. POM/MIS	12	0	3	1	3	1	20	5.2
7. PARTICIPATION	6	2	2	3	1	3	17	4.4
8. MEETINGS	2	0	2	0	10	0	14	3.6
9. STAFFING/MANPOWER/TEMPS	9	8	3	0	0	2	22	5.7
10. CHAIN OF COMMAND	13	3	1	2	0	3	22	5.7
11. TRAINING GRIPES	4	2	1	0	2	0	9	2.3
12. SPECIAL GROUPS	2	3	2	1	0	0	8	2.1
13. MODES OF COMMUNICATION	0	1	0	2	4	1	8	2.1
14. SUPERVISOR STYLE	24	15	10	13	2	6	70	18.1
15. MISCELLANEOUS	11	0	0	2	0	1	14	3.6
TOTALS	136	55	48	36	59	52	386	
PERCENT OF THE TOTAL	35.2	14.2	12.4	9.3	15.3	13.5		100
AVERAGE PERCENT PER GROUP*	8.7	4.7	4.1	4.7	5.1	13.5		

*The 16 interview groups were combined into six departmental groups as follows:
Non Management - Four groups; 2 from Production, 1 from Engineering and 1 from the office.
1st Line Manufacturing - Three groups; 2 groups of Manufacturing Supervisors, 1 group of Asst. Manufacturing Supervisors
Engineering Managers - Three groups; 2 groups of Engineering Managers and 1 group of Assistant Engineering Managers.
Production and Personnel Managers - Two groups; 1 group of general office managers and one group of Production Managers.
Marketing Managers - Three groups; 2 groups of Marketing Managers and one group of Marketing Department Heads.
Production and Engineering Middle Managers - One group.

The importance of a category established through the informal survey was defined as the number of managers that suggested it as a potential training issue. This definition makes the assumption that the number of times the concern was voiced by a different manager was a good indication of the level of concern. Therefore the most important issues according to the informal survey were Participation, Communication Skills, and Performance Reviews (including Management by Objectives), with Participation being the greatest concern of marketing managers, Communication Skills the greatest concern of manufacturing, and Performance the greatest concern of engineering.

In the sorting process, importance of a category was defined as the number of cards placed in a particular category. This was based on the assumption that the extent of discussion in a focus group on an issue was a good indication of the level of concern. The results of the focus group interviews suggests that issues of Department Interfaces, Strategic Planning, and Scheduling were the major concerns, with Department Interfaces being the greatest concern of production and engineering, Strategic Planning the greatest concern of marketing, and Scheduling the greatest concern of non-management employees. The three top concerns as perceived by managers in the informal survey were not even identified as dominant concerns to the same groups through the focus group process.

Although the major concerns identified by managers in the informal survey were also identified in the needs assessment, the major issues identified through the needs assessment were not mentioned at all by managers in the informal survey, suggesting that if a training program had been designed and implemented at the research company based on the information generated through the informal survey, major issues would not have been addressed and symptoms of large issues or minor issues would have been addressed while the origin of these problems or the larger issues involved would have been ignored.

Results of the second research question

The second research question posed in the study was to what extent does a focus group needs analysis provide information that is common to all organizational members versus information that is specific to a subunit?

Of the 14 categories of concern identified through the focus group process, not all categories were addressed by every one of the six groups; but there were seven categories that were concerns to every group. As is detailed in Table VI, the seven categories that all six of the employee groupings voiced concern on were Department Interfaces, Strategic Planning, Schedule, Responsibility/Authority, Performance Standards, Participation, and Supervisory Style. Three categories were identified as concerns by five groups, specifically POM/MIS, Chain of Command, and Modes of Communication. Three categories were identified by four groups; Staffing/Manpower/Temporary Help, Training Gripes, and Special Groups; and in one category, Meetings, only three groups identified it as a concern.

While, according to Table VI, it appears that non-management employees and production and engineering middle managers were over-represented, it is important to note that each of the four non-management groups had more people per group than any of the management groups did. When the assembly-effect bonus is considered it is logical that more responses were collected from these larger groups. In the case of the production and engineering middle managers, this was the only group requesting that the interview session continue past the scheduled two hours. In fact, the group met for almost four hours. The additional discussion time was not seen as impacting the validity of the information collected because all groups had the opportunity to extend their session or ask for a second session. By the end of the two hours, all other groups appeared to be happy with the completeness of the list of issues generated. The fact that the production and engineering middle managers had more issues on their minds than other groups may be related to their management level which requires them to interact with more individuals and functional areas than other employees.

The results presented in Tables VII (page 43) and VIII (page 44) identify trends that suggest where needs were identified as local concerns of a particular functional area, department, or management level versus those common needs that were identified as global concerns. Table VII shows the extent to which each category was addressed by a particular group, as determined by the number of cards in the category, in relation to the other groups. Table VIII indicates the extent to which each group was concerned about a particular category, based on the percentage of cards sorted into that category, in relation to the other categories.

Referring to Table VII, six training issues were identified by all groups. Department Interface issues were discussed consistently by all groups. Strategic planning issues were also discussed by all groups but the majority of these issues were discussed by the marketing mangers and the production and engineering middle managers, Responsibility/Authority issues were discussed by all groups although the majority of these issues were discussed by non-management employees, production and personnel managers, and marketing

TABLE VII
PERCENTAGE OF THE TOTAL TOPICS IN EACH CATEGORY
THAT WERE CONTRIBUTED BY EACH FUNCTIONAL AREA*

	NON MGT.	1ST LINES MANUF.	ENG. MGRS.	PRD. & PERS. MGRS.	MKT. MGRS.	PRD. & ENG. MID. MGRS.	TOTAL PERCENT
1. DEPARTMENT INTERFACES	14	17	19	7	19	24	100
2. STRATEGIC PLANNING	12	2	12	10	35	29	100
3. SCHEDULE	48	19	9	3	16	3	100
4. RESPONSIBILIITY/AUTHORITY	59	9	9	4.5	4.5	14	100
5. PERFORMANCE STANDARDS	55	10	10	5	10	10	100
6. POM/MIS	60	0	15	5	15	5	100
7. PARTICIPATION	35	12	12	18	6	18	100
8. MEETINGS	14	0	14	0	71	0	100
9. STAFFING/MANPOWER/TEMPS	41	36	14	0	0	9	100
10. CHAIN OF COMMAND	59	14	4.5	9	0	14	100
11. TRAINING GRIPES	44	22	11	0	22	0	100
12. SPECIAL GROUPS	25	37.5	25	12.5	0	0	100
13. MODES OF COMMUNICATION	0	12.5	0	25	50	12.5	100
14. SUPERVISOR STYLE	34	21	14	18	3	8	100
15. MISCELLANEOUS	78	0	0	14	0	7	100

*This table should be read across each row to determine the percent of the total topics in each category that were contributed by each group. All figures have been rounded.

TABLE VIII
PERCENTAGE OF THE TOTAL TOPICS RAISED BY EACH FUNCTIONAL AREA
THAT WERE SORTED INTO EACH CATEGORY*

	NON MGT.	1ST LINES MANUF.	ENG. MGRS.	PRD. & PERS. MGRS.	MKT. MGRS.	PRD. & ENG. MID. MGRS.
1. DEPARTMENT INTERFACES	6	18	23	11	19	27
2. STRATEGIC PLANNING	4	2	12.5	14	30	29
3. SCHEDULE	11	11	6	3	8	2
4. RESPONSIBILIITY/AUTHORITY	9.5	4	4	3	2	6
5. PERFORMANCE STANDARDS	8	4	4	3	3	4
6. POM/MIS	9	0	6	3	5	2
7. PARTICIPATION	4	4	4	8	2	6
8. MEETINGS	1	0	4	0	17	0
9. STAFFING/MANPOWER/TEMPS	7	14.5	6	0	0	4
10. CHAIN OF COMMAND	9.5	5	2	5	0	6
11. TRAINING GRIPES	3	4	2	0	3	0
12. SPECIAL GROUPS	1	5	4	3	0	0
13. MODES OF COMMUNICATION	0	2	0	5	7	2
14. SUPERVISOR STYLE	17.6	27	21	36	3	11.5
15. MISCELLANEOUS	8	0	0	5	0	2
TOTAL PERCENTAGE	100	100	100	100	100	100

*This table should be read down each column to determine the percent of the total topics raised by each group that were sorted into each category. All figures have been rounded.

managers. Performance Standard issues were discussed by all groups but over half of these issues were brought up by non-management employees. Participation was discussed consistently by all groups. Supervisory Style issues were discussed consistently by all groups, but most heavily by non-management employees. Chain of Command issues were discussed by five groups with the majority of the discussion by non-management employees and no discussion by marketing managers. Modes of Communication issues were discussed by four groups with the majority of the discussion by marketing managers. Meetings issues were discussed by only three groups. The majority of these issues were discussed by marketing managers and no issues were discussed by production and personnel managers or production and engineering middle managers. Special Groups issues were discussed consistently by only three groups which were non-management employees, manufacturing supervisors, and engineering managers.

Of the non-training issues, Scheduling issues were discussed by all groups but the majority of these issues were discussed by non-management employees and the manufacturing supervisors. Although five groups discussed POM/MIS issues over half of these issues were discussed by non-management employees while no POM/MIS issues were discussed by the manufacturing supervisors. Staffing issues were discussed by only four groups. The majority of these issues were discussed by non-management employees and manufacturing supervisors. Training Gripes issues were discussed by four groups. The majority of the discussion was by non-management employees and engineering managers.

Referring to Table VIII, in each functional group there were several categories in which considerably more issues were raised than in other categories. Most of the issues raised by non-management employees related to

Supervisory Style, Responsibility/Authority, and Chain of Command. The majority of the issues raised by manufacturing supervisors related to Supervisory Style, Department Interfaces, Staffing/Manpower/Temporary Help, and Schedule. Engineering managers' issues, production and personnel managers' issues, and production and engineering middle managers' issues were primarily focused around Department Interfaces, Supervisory Style, and Strategic Planning. The majority of the marketing managers' issues involved Strategic Planning, Department Interfaces, and Meetings.

The relationships between these categories and the functional groups can be more easily seen by comparing the rank orderings of the categories across groups (see Table IX, page 47). In a broad sense, Table IX suggests that the concerns that non-management employees discussed to the greatest degree were very different from the concerns that managers discussed to the greatest degree.

The data concerning the second research question suggest that the needs assessment process identified several concerns, specifically Department Interfaces, Strategic Planning, Schedule, and Supervisory Style, that were felt strongly by all groups and could therefore be identified as global issues. The data also suggest that the needs assessment process identified several concerns, specifically Staffing/Manpower/Temporary Help, Meetings, and Modes of Communication, that were very strong concerns but only in specific functional areas, departments, or management levels and could therefore be identified as local concerns.

TABLE IX
RANK ORDER OF THE CATEGORIES BY FUNCTIONAL GROUP

	NON MGT.	1ST LINES MANUF.	ENG. MGRS.	PRD. & PERS. MGRS.	MKT. MGRS.	PRD. & ENG. MID. MGRS.
1. DEPARTMENT INTERFACES	7	2	1	3	2	2
2. STRATEGIC PLANNING	8	7	3	2	1	1
3. SCHEDULE	2	4	4	6	4	6
4. RESPONSIBILIITY/AUTHORITY	3	6	5	6	8	4
5. PERFORMANCE STANDARDS	5	6	5	6	7	5
6. POM/MIS	4		4	6	6	6
7. PARTICIPATION	8	6	5	4	8	4
8. MEETINGS	10		5		3	
9. STAFFING/MANPOWER/TEMPS	6	3	4			5
10. CHAIN OF COMMAND	3	5	6	5		4
11. TRAINING GRIPES	9	6	6		7	
12. SPECIAL GROUPS	10	5	5	6		
13. MODES OF COMMUNICATION		7		5	5	6
14. SUPERVISOR STYLE	1	1	2	1	7	3
15. MISCELLANEOUS	5			5		6

A Note on Statistical Analysis

Statistical significance tests were deemed inappropriate for this study due to several factors. In an absolute sense, the topics on each Q-card, in many cases, represented more than one comment on a particular issue. Thus, in a strict sense the meaning of the categories is imprecise. In addition, the assumptions of non-parametric tests such as Chi-square and rank-order tests could not be met with this data. In particular, Chi-square was not used because of the numerous violations of the assumption that the expected value of each cell is at least five. The alternative rank-order tests were not used because of the numerous amount of ties in the cell values and because these tests are based on the median score (Downie & Heath, 1965). Due to the nature of the data there were a limited number of cell values that were very high and a large number of cell values that were very low, comparatively speaking. Therefore, the calculated median score was very low and allowed for almost all factors to appear very significant which was obviously not the proper interpretation of the data (Williams, 1979).

CHAPTER IV

DISCUSSION

The researcher conducting this study sought to answer two research questions. The first question asked: To what extent are the training needs perceived by managers as expressed in an informal survey congruent with training needs expressed by employees/managers who are asked to identify needs through a focus group interview methodology?

The findings here suggest that major training needs identified in the focus group interviews were not identified by the managers who responded to the informal survey prior to the needs assessment. Some issues identified through the informal survey, however, were also identified through the focus group interviews; but these issues (1) were not the major issues identified in the focus group interviews, (2) were subsets of larger issues identified in the focus group interviews, or 3) were symptoms of issues identified in the focus group interviews.

These results support previous work in this area. Specifically, they support previous research on the benefits of group interaction on idea generation and validation, the contribution that all employees, not just managers, can make when identifying organizational needs, and the importance of response rate on reliability.

Babbie (1986) suggests that lower response rates will occur in questionnaire-type survey methods than in interview methods. All managers in this study had been invited to participate in the informal survey and were encouraged to attend the focus group interviews, but only about one third of the managers responded to the informal survey while over 90 percent participated in the focus group interviews. Because the response rate was so low on the informal survey and the resulting list of training needs were different from the results of the focus group interviews, which had a much higher response rate, the reliability of the information obtained through the informal survey in this study is questionable (Babbie, 1986). While it can be expected that if 90 percent of the managers again participated in focus group interviews similar results would be obtained, it is unlikely that if another informal survey was conducted with a similar response rate as before that the same results would be obtained.

Although there is no way to estimate the amount of time respondents to the survey spent thinking about their answers and completing the questionnaire, it is highly doubtful that all participants reflected and responded over a two-hour period. In the interviews, participants discussed and seriously considered issues of concern for at least two hours. Even if the survey respondents did spend two hours considering their responses, research on the assembly-effect bonus suggests that respondents working by themselves would still have generated far less issues than would be generated through a group process (Burgoon, 1974). Through the interaction that took place in the focus group interviews, participants were not only able to generate more issues, but they were also able to react to and clarify a vast amount of detailed information, making the issues accurate interpretations of causes of and possible solutions to current problems that members of the organization were facing.

Although the needs assessment was being done to determine the content of management training seminars, the managers at the research site realized that not only the management but non-management employees as well would be affected by the implementation of these programs. Thus the managers requested that a sample of non-management employees be included in the needs assessment. Non-management employees did not participate in the informal survey and the results of the needs assessment suggested that many of their concerns were not the same as their managers. The participation of the non-management employees in the needs assessment provided greater assurance that the opinions of the total population of the organization were addressed and that management training resulting from this process included the perceptions of non-management employees.

In summary, the literature suggested and this study demonstrated that because of the high response rate of focus group interview methodology, the opportunity for interaction, and the input of all levels of employees the information obtained through focus group interviews is a far more valid predictor of the opinions of the total population at an organization than the information obtained through surveys. From the findings here, it can be speculated that if a training program had been implemented at the research company based on the results of the informal survey, major concerns of large numbers of managers and employees would not have been addressed, minor concerns would have been addressed, and symptoms of or subsets of larger issues would have been trained for outside of the larger issues which encompassed them. While such training may not have "hurt" the organization, it can be safely argued that it would not have resulted in efficient improvement in the managerial resources of the company, and in cases where symptoms rather than problems were addressed, may have had no effect at all on improving managerial performance.

The second research question asked: To what extent does a focus group needs analysis provide information that is common to all organizational members versus information that is specific to a subunit?

The findings here suggest that a focus group needs analysis provides both global organizational information and local organizational information. These findings are in line with the literature which suggests that when sampling is used individual needs or needs specific to certain departments or areas may not surface (Dunham & Smith, 1979). Since sampling was not used for the management groups, the concerns of individual departments and areas which did surface is in line with what might be expected from the literature. Although sampling was a factor with non-management employees, department-specific concerns surfaced in these groups as well. The validity of these concerns can be supported by the literature that suggests that the differences observed between the department-specific concerns of management groups and the department-specific concerns of non-management groups was as expected. Specifically, Mintzberg (1973) suggests that higher-level employees would be more concerned with issues of strategic planning while lower-level employees would be more concerned with the maintenance of work flow--i.e., Supervisory Style issues and Schedule issues.

The fact that some issues which emerged were local in nature may be viewed in a positive way. Based on an analysis of where these local needs are, the research company is now in a position to conduct very efficient and productive training programs based on both organizational needs and needs specific to sub units. The entire management team can be provided with programs that address the organization-wide needs; and specific areas, departments, or management levels can be provided with training programs geared to their specific needs. In this manner, commitment to the programs may be enhanced since only those managers who identified the subject matter of a particular program as a concern in their specific area, department, or management level will be attending the programs.

In general, the face validity and reliability of this study is high. The researchers had the opportunity to spend a considerable amount of time at the research site, interacting with many of the managers and a limited number of non-management employees, both before, during, and after the focus group interviews. For the two-and-one-half-week period during which the interviews took place the researchers were a daily presence at the company. Due to previous exposure to the organization, both researchers were in a position to very accurately understand the terminology used by various areas, departments, and management levels during the interviews and to accurately identify issues as symptoms or subsets of larger concerns and categorize them accordingly. This greatly enhanced the validity of the study and is reflected by the percent agreement in the Q-sort.

One threat to the validity of the study is the degree to which the researchers became co-opted and unable to remain unbiased "outsiders." This threat could have biased the study had the researchers begun to direct the interviews. As much as possible, the researchers attempted to remain consciously aware of this possibility and only intervened in focus group discussions in order to seek clarification of a discussion.

A second concern with regard to the validity and reliability of the study was the time of year during which the focus group interviewing was conducted. The interviews occurred while the company was in the midst of their "end-of-the-year crunch" and all of the pressures that are inherent in this event--i.e., deadlines were crucial, work loads were heavy, and there was a push to get all figures in line with predicted year-end goals. As a result, staffing and scheduling issues concerning excessive overtime and schedule "crunches" may have been over-represented. There is some question as to whether or not the same issues would have been addressed to the degree they were addressed, had the study been conducted at another time in the company's fiscal year.

Another concern in regard to the reliability of the study was the sampling of non-management employees. Ideally all, or at least a larger sampling of, non-management employees would have had the opportunity to participate in the focus group interviews. The main problem with the sampling was that as a result there were a limited number of non-management representatives from each department. Therefore, in order to preserve the confidentiality of the participants, all four non-management groups were grouped together for the analysis.

Further research in this area could be done by sampling a large number of non-management employees in each department and then directly comparing the issues discussed by subordinates and the issues discussed by their supervisors. The information collected also provided numerous references to a very interesting metaphor that encompassed the style of the work-flow processes throughout the entire organization. Further research on the implications of this metaphor would no doubt provide interesting insight into many aspects of this company, beyond the information presented here.

In this research two issues were addressed: the effectiveness of an informal survey versus a formal focus group interview method for determining training needs and the effectiveness of a focus group interview method in determining both local and global training needs. The findings here suggest that a formal focus group interview method is more effective than a survey method for determining the training needs of an organization, and that as a result of the focus group interview method organization-wide training needs can be identified as well as training needs that are specific to certain functional areas, departments or management levels.

POSTSCRIPT

Based on the results of the needs analysis which was the basis for this study the managers of the company were presented with a report prepared by Researcher 1 which included an Executive Summary of the data collection method. The conclusion of the needs analysis as presented by Researcher 1 in this report to management can be found in Appendix C. The conclusions were prepared and submitted to the company unbeknownst to the author of this thesis.

APPENDIX A

Small Group Results at Introductory Seminar

Questions are numbered 1 through 6 and the feedback from each of the seven groups is identified by a letter, A through G.

1) Who should be interviewed? All managers? A sample of them? All employees? A sample of them?

A) All managers and a sample of employees.

B) All managers and some employees.

C) All managers and a sample of employees.

D) All managers, Executive Committee and sample of employees.

E) All managers (50%), some managers (50%), some empicyees (100%).

F) All managers and a sample of employees.

G) 50% of managers and a sample of employees, 1-5 from each department/area.

Concensus: All managers and a sample of all other employees. One to five representatives from each work group, depending on the number of employees in each group. Although the number of employees is recommended by managers, the managers will not be selecting the exact employees.

2) <u>How should the interview groups be configured? Who would people be most comfortable with? Homogeneous groups within each unit? Hierarchically (horizontal)? Levels of management grouped together (vertical)? Random assignment?</u>

A) Random assignment.

B) Random assignment.

C) Homogeneous within units.

D) Mix of management levels and departments.

E) Three groups consisting of 10-12 people. One group should be homogeneous by responsibilities/duties. The second group should by hierarchical by department and the third group should be random.

F) Homogeneous within unit by levels (management levels). All middle managers develop electives.

G) Structure by department area with a reasonable cross section of the area. 50% of managers (vertical cross section).

Consensus: Hourly employees will be treated separately. Managers wanted to think for a few days about what kind of group arrangement they would feel most comfortable in. They decided to give the personnel manager feedback by Wednesday.

3) <u>How long a period of time will be needed for group interviews?</u>

A) Sixty minutes with preliminary interview.

B) One or two hours.

C) Maximum of two hours per group.

D) Two one-hour sessions for a group of six to eight.

E) Two two-hour meetings.

F) Counselor's discretion based on group's activities.

G) One hour.

Consensus: Each group commits to one one-two hour meeting and then the group decides whether or not they would like to extent the time or come back for a second meeting.

4) <u>How should results of the interviews be communicated back to Acme?</u>

A) Written document to all interviewees.

B) Typed and shared.

C) Written to personnel.

D) Written form.

E) Report to Executive Committee* with representative from group.

F) Written report.

G) Consolidate minutes and report to Personnel Manager.

Consensus: Although I don't think we meant to, it seems that we considered questions 4 and 5 together in the large group consensus discussion when perhaps we should not have. See results below under question 5.

5) <u>How should the information be shared with managers?</u>

A) Detailed report from all groups.

B) Typed and shared.

C) Written and oral by Personnel to managers.

D) Shared with all who gave input.

E) Report and presentation.

F) Results meeting.

G) No response.

Consensus: Summary reports compiled by researchers with pattern differences emphasized.

6) Who should be involved in the actual training program planning?

A) Use Advisory Committee** with personnel department and researchers.

B) Professionals.

C) Personnel and Advisory Committee.

D) Advisory Committee, researchers and Executive Committee.

E) Advisory Committee.

F) Consultants.

G) Advisory Committee.

Consensus: Four-person Advisory Committee plus the researchers.

* The Executive Committee is made of of the President and Vice Presidents of Acme.

** The Advisory Committee is a group of employees that the Personnel Manager asked to take part in the design of the training program prior to the decision to hire consultants to do the needs assessment. Anyone else who was interested in being on the Advisory Committee was asked to contact the Personnel Manager by the fourth day after the introductory seminar. One manager did respond and then became a member of the committee.

APPENDIX B

Samples of the Raw Data Collected During Focus Group Interviews

* Let supervisors supervise, train, oversee--why does everyone have to be a manager?

* Scheduling crunches/pressures are the norm.

* How do you give evaluations on negative employees?

* Written communication techniques need improvement.

* Employee evaluation form is inadequate.

* How do you teach subordinates without hands-on training from managers?

* How do you motivate retiring employees to do overtime and Saturday work?

* Burn out is common.

* Need work with schedule planning.

* New management rules - we can't do the "old" ways so how do we get the same response from subordinates?

* Over-staffed departments vs. overtime departments.

* How can we deal with the end-of-the-year crunch?

* What's left to do when you can't reward with $?

* Use and abuse of meetings;
  - ensuring follow-up from meetings,
  - effective time in meetings.
* Project operations analysis is not done.
  - Many project team members are
    1. incapable of doing it,
    2. too busy to do it,
    3. don't see it as a priority,
    4. or are not expected to do it.
* Cross department information flow needed;
  - understanding other functions,
  - understanding interdependencies.
* Project manufacturing skills/techniques are
  - used as exception, cause problems, focus attention.
  - When are they used? What are the criteria for use?
* Product line teams are not successful because of a lack of personnel,
  - issues are related to "line" not "order",
  - people are too busy.
* Everyone has conflicting priorities.
* Where are we going?
  - What is the vision, company-wide?
  - Strategic planning, if done, is not shared.

APPENDIX C

REPORT PREPARED BY RESEARCHER 1 AND PRESENTED TO MANAGEMENT AT THE RESEARCH COMPANY

EXECUTIVE SUMMARY

Based on the analysis of the topics discussed by employees during sixteen focus group interviews the following six areas are recommended as subject matter for [redacted] Management Seminars: (1) Sharing the Strategic Vision--Understanding Where [redacted] has been and Where it is going, (2) Managing Relationships at Departmental Boundaries, (3) Planning Effectively to Achieve Objectives, (4) Managing Upward and Downward--Hierarchical Relationships, (5) The Effective Use of Committees and Groups, and (6) Mentoring Promising Employees.

In addition to these seminar topics which would address the training needs of the entire [redacted] management team, it is recommended that managers with formal supervisory responsibilities could benefit from training programs in the following two areas: (1) Conducting Effective Performance Reviews, (2) Rewarding Effective Performance without Dollars and Correcting Ineffective Performance without Firing.

Finally, it is recommended that two programs be offered on an elective basis in order to address the expressed needs of some of the [redacted] management team. These programs are: (1) Improving Written Communications and (2) Time Management Techniques.

The next section of this report details the goals of each of these programs. It is followed by a description of the process used to determine this training agenda and the analysis on which these recommendations are based.

SUGGESTED TRAINING PROGRAMS
BASED ON NEEDS ANALYSIS

A. Entire Management Team:

1. Sharing the Strategic Vision--Understanding Where [redacted] Has Been vs. Where It Is Heading

Goals:
* articulation and discussion of the company's historical mission
* understanding nature of changes in the environment in which [redacted] operates including its competitive, technological, supplier, labor, government, customer, owner, and societal components
* understanding what opportunities exist or will exist in the environment
* understanding what is [redacted] business, what should it be, and how this effects decisions and work
* explaining the distinctive competencies of [redacted]
* discussing [redacted] weaknesses
* describing what [redacted] market niche is (matching [redacted] abilities with opportunites)
* understanding [redacted] grand strategy, whether it be incremental growth, profit, pause, sustainable growth, increase sales of single-product/service line, diversification, vertical integration, retrenchment, or some combination of these
* understanding how the strategy affects each area of the company and how this affects decision making

2. Managing Relationships at Departmental Boundaries (Fire Prevention)

Goals:
* understanding the roles and responsibilities of each [redacted] department and how each is changing
* understanding the nature and extent of interdepartmental interdependencies
* understanding overlapping responsibilities and authorities and sorting these out
* developing negotiating skills useful in resolving interdepartmental conflict
* developing skill at communicating across departmental boundaries
* developing a project management perspective and techniques without adopting a formal project team structure

3. Planning Effectively to Achieve Objectives

Goals:
* learning to develop objectives
* understanding the types of plans that should be made
* developing skill at articulating planning premises
* how to do data based planning
* understanding how planning affects the schedule
* learning how to set priorities
* developing an understanding of techniques for scheduling subordinates work to increase efficiency

4. Managing Upward and Downward--Hierarchical Relationships

Goals:
* understanding the various levels of management and their responsibilities, authorities, and accountabilities
* learning to negotiate work assignments, responsibility, and authority
* developing skill at communicating upward
* developing skill at selling your ideas to your boss
* understanding exchange relationships and their importance to career development

5. The Effective Use of Committees and Groups

Goals:
* understanding when a meeting or committee is needed
* developing guidelines for selecting individuals
* learning to define committee goals
* developing skills for preparing for meetings, agenda, and homework
* learning to manage group meetings
* understanding group decision making
* learning guidelines for post meeting processing

6. Mentoring Promising Employees

Goals:
* understanding the mentoring process
* knowing benefits of mentoring for the mentor
* understanding the protege and the company
* understanding who should mentor
* learning how to be a mentor
* understanding the role of delegation in mentoring
* becoming aware of problematical aspects of mentoring
* understanding when to let go of the protege

B. MANAGERS WITH FORMAL SUPERVISORY RESPONSIBILITY:

1. Conducting Effective Peformance Appraisals (PA)

Goals:
* understanding the importance of PA from both the organization's perspective and the individual's perspective
* understanding the multiple uses for the results of PA
* understanding problems common to managers in conducting PA
* understanding problems common to subordinates receiving PA
* developing skills for improving PA
* developing skills for insuring accuracy in PA
* developing skills for reducing defensiveness
* becoming aware of guidelines for conducting PA interviews
* gaining skill practice at conducting PA interviews

2. Rewarding Effective Performance Without Dollars and Correcting Ineffective Performance without Firings

   Goals:
   * understanding how rewards and punishment affect behavior
   * developing lists of nonmonetary rewards available to [redacted] managers
   * developing lists of nontermination punishments
   * understanding when to praise/discipline
   * developing skill in praise/discipline
   * understanding how to be consistent in allocating rewards and discipline

C. OTHER PROGRAMS WHICH MAY BE OFFERED ON AN "ELECTIVE" BASIS:

1. Improving Written Communications

   Goals:
   * understanding when to communicate in writing
   * developing skill at memo and letter writing
   * effecting review and skill development in writing techniques

2. Time Management

   Goals:
   * understanding how to work smarter rather than harder
   * presenting tips on organizing time in a hectic environment
   * learning how to chunk larger projects in order to aid task accomplishment in fragmented time blocks
   * understanding homework vs. office work
   * learning to manage subordinates time effectively

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