THE UNIVERSITY OF ALBERTA

COLLABORATIVE TRAINING NEEDS ASSESSMENT

BY

ALLAN CLIFFTON RACHUE ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of requirements for the degree of DOCTOR OF PHILOSOPHY

IN

ADULT AND HIGHER EDUCATION

DEPARTMENT OF ADULT, CAREER AND TECHNOLOGY EDUCATION

EDMONTON, ALBERTA

FALL, 1994

ISBN 0-315-95254-7

UNIVERSITY OF ALBERTA

RELEASE FORM

NAME OF AUTHOR: Allan Cliffton Rachue

TITLE OF THESIS: Collaborative Training Needs Assessment

DEGREE: Doctor of Philosophy

YEAR THIS DEGREE WAS GRANTED: 1994

9539 - 91 Street

Edmonton, Alberta T6C 3P6

DATE: August 30, 1994

UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled COLLABORATIVE TRAINING NEEDS ASSESSMENT submitted by ALLAN CLIFFTON RACHUE in partial fulfillment of the requirements for the degree of DOCTOR OF PHILOSOPHY in ADULT AND HIGHER EDUCATION.

A G Konrad
Dr. A. G. Konrad, Supervisor

P.A. Brook
Dr. P. A. Brook, Supervisory Committee

James M Small
Dr. J. Small, Supervisory Committee

L Steier
Dr. L. Steier, Examining Committee

Dr. H. K. Baskett, University of Calgary

M Haughey
Dr. M. Haughey, Committee Chair

Date August 22, 1994

DEDICATION

In memory of Kenneth R. M. Duffy
who showed me that life is
always learning.

ABSTRACT

The purpose of this study was to demonstrate collaboration between participants and assessors in the needs assessment process. Significant paradigm shifts in management and workplace learning towards worker participation and empowerment signalled the critical need for new approaches to training needs assessment.

A cohort of 72 middle managers in a selected telecommunications corporation was assessed to determine their training and development needs in generic management skills. A nominal group technique (NGT) was used to ascertain middle managers' perceptions of the generic management activities of their jobs. Likewise, a sample of line managers (supervisees of middle managers) was surveyed using the NGT for their perceptions of the generic management activities of middle managers. A sample of senior managers was interviewed for similar purposes. The collected data were reviewed by a focus group of middle managers in consultation with the assessment team to produce a consolidated list of the generic management activities of middle managers.

The list of generic management activities was used as the foundation for a survey questionnaire administered to the middle managers. For comparative purposes, the questionnaire was also administered to senior managers to gather their perceptions of the training and development

needs of middle managers. Results of the survey indicated that middle managers had most training and development needs in the following generic management activities: change management, staff development, planning, and quality improvement.

Bogdan and Biklen's (1993) guidelines for reflection were adapted and used to complete an in-depth reflection by the researcher on the needs assessment process and outcomes. These reflections undergirded conclusions and implications drawn concerning collaborative training needs assessment. While collaborative training assessment was a goal to be achieved, it was difficult to do so given organizational elements mitigating against such efforts. It was concluded that collaborative needs assessment could only be achieved slowly in concert with changes in management culture. This study confirmed that determination of training needs is essentially a social construction within the culture of the organization. Collaboration between decision-makers, participants, and assessors recognizes this social construction.

ACKNOWLEDGEMENTS

The solitary process of completing this dissertation was significantly interrupted by encouragement, support, and inspiration. Without the interruptions, the process would never have reached completion.

I would like to acknowledge the interruptions made by members of my supervisory committee: Dr. Abe Konrad, Dr. Paula Brook, and Dr. Jim Small for their sage advice and positive support of the study from inception to conclusion. Dr. Konrad, my supervisor, was particularly adept at interrupting my written and conceptual digressions. His commitment to my successful completion took the form of expert guidance and pragmatic assistance. Thank you, Dr. Konrad. I would also like to thank the other members of my examination committee, Dr. Margaret Haughey, Chair, Dr. Lloyd Steier, and Dr. Morris Baskett, for their valuable time and contributions to the process.

The members of the project team at the corporation where this study was completed must remain unnamed, however, their contributions do not go unappreciated. I am grateful for their observations, endorsation, and willingness to explore the complexities of needs assessment.

I sincerely appreciate colleagues' interruptions out of interest, dialogue, and friendship. Art Deane always permitted me to interrupt him. Linda Clemence was unstinting in her encouragement and intellectual engagement. She always had time to talk, despite the many other

interruptions in her life.

Aunts Ernestine and Martha interrupted the dreariness of Edmonton winters with doting care and attention that only aunts can give. Thank you, my dears.

Dale Hardy has been a special friend who provided tangible assistance and unswerving optimism. You have always been there, Dale, through the interruptions (bordering on chaos) in my personal and professional life. I treasure our friendship.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES (Cont'd)

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Training and development is a major continuing education enterprise in today's economy. Many organizations look to training and development of staff as a way to increase productivity and to effectively deal with change. In order to accurately plan for these training demands, educators and human resource development specialists often use needs assessments.

Gordon (1986) estimated twenty-nine billion dollars (US) was spent on training in the United States in 1986. His study projected that about 30.5 million Americans would receive formal employer-sponsored training in 1986, and that they would receive 1.3 billion hours of training. Given this scope of enterprise, efforts to improve needs assessments, and their greater usage, could result in more effective allocation of training funds.

Canada ranked 19th out of 22 developed countries on the adequacy of in-company training programs, according to the International Institute for Management Development (Bringas, 1992). A survey by the Canadian Federation of Independent Business found that the 50 fastest growing companies in Canada spent about five times more on training than the $20,000 a year average expenditure of companies. "Successful companies, even in tough economic times, will stay the course of continuing training programs through committed budget efforts" (Bringas, 1992, p.13). If Canada is to compete in competitive global markets, a highly trained, efficient management workforce seems mandatory. Needs assessments can provide the kind of precise targeting required to maximize scarce training funds.

Watkins (1989) discussed current trends in the field of workplace learning. She envisioned broadened roles for human resource developers:

> In each of these new roles, it is clear that an expanded conception of human resource development, from predominantly classroom training to the promotion of learning throughout the organization, is needed. The changing workplace is bringing with it a new vision of learning with a much greater emphasis on interpersonal helping skills. Human resource developers must actively strive to shape that new vision. (p. 433)

An approach to needs assessment that encompasses these interpersonal skills is likely to better respond to the changing workplace described by Watkins. Such an assessment would encompass contextual elements and would be in-step with recent business trends such as worker empowerment, customer service and continuous quality improvement. These trends all recognize that quality products and services are dependent on involved and committed (empowered) workers.

Watkins (1991), in an article examining foci of the field of human resource development, called for an holistic perspective that includes rigorous, precise measurement and the development of new tools "not to engineer human performance, but rather to encourage dialogue between learners and educators" (p. 224). Furthermore, assessments which emphasize interpersonal relations will add to an understanding of the needs assessment process, and may contribute to a greater utilization of needs assessment in business and industry.

Other writers (Brown, 1988; Batley, 1990; Jacobs, 1988) have also commented on the apparent failure of many management training programs because training needs assessments were not routinely completed. Even when needs assessments are conducted, their findings are often not incorporated in continuing education planning. Costly reports languish on trainers' shelves, often ignored by the people who commissioned them.

Witkin (1992) extensively examined needs assessment literature written throughout the 1980s. She concluded that "Very little new methodology emerged. The overwhelming practice appears to be the focus on preferences or demands for programs or services" (p. 8). In light of her findings, she wondered what, if any, impact has been realized by the theories and techniques recommended by scholars and researchers.

This study endeavored to contribute to knowledge about needs assessment by conducting a collaborative training needs assessment. To accomplish its goal, this study ascertained management training and development needs of middle managers in a telecommunications company.

The study went further to critically reflect on the process of needs assessment in order to achieve an understanding of the process, thereby to add a qualitative dimension to the study. In essence, the study determined the training and development needs of middle managers and retrospectively asked what was learned from this experience.

In light of Watkins' (1989) call for new perspectives on human resource development efforts, this study undertook a reflection of the collaborative needs assessment project to discover insights that could aid practioners in progressing toward such new perspectives.

Contextual Setting

The setting chosen for this study was an Alberta telecommunications corporation having more than 1000 employees. The organization served the telecommunication needs of a large urban centre.

The management structure consisted of 5 major divisions: Customer Service, Network Service, Finance and Administration, Human Resource Development/Service Quality, and Sales and Marketing. Each division was headed by a vice-president who reported to a Board of Directors. Within the corporate executive branch there were 22 directors, responsible for the various functional areas of the company and reported to a vice-president.

The middle manager population could be characterized as a stable population with the majority having been in their positions for several years. Most had risen within the ranks of the company. As a sizeable number of middle managers will be retiring within the next five years, the stability and demographic make-up of the population will change significantly.

Approximately 250 line managers worked in the corporation, 110 carried the designation "Level I Manager" and the remaining 140 were senior supervisors. Line managers report to middle managers (Level II Managers).

Deregulation introduced by the federal government under the Canadian Radio and Telephones/Telecommunications Commission presented the corporation with the possibility of entering the long distance market, from which it had hitherto been excluded. At the same time, the corporation faced competition within its geographic area, where previously it held a monopoly on network services.

A number of other strategic changes were simultaneously underway. The corporation also pursued the marketing of telecommunication and information services expertise to the local business community. Development of fibre-optic applications and mobility applications were also actively considered. The corporation was looking to export management and technological expertise to markets in the developing world. Other strategic initiatives included restructuring of senior management responsibilities, increased emphasis on customer service, instituting quality paradigms, and linking management renumerative incentives to demonstration of profit results.

Employee training and development was located within the Human Resources Division. Two management training consultants who worked under the general direction of the training manager provided management training. Management training usually took the form of in-house courses and seminars or company sponsored attendance at management training institutes and workshops.

Problem Statement

This study had two major purposes. The first was to determine the need for management training and development of middle managers of a selected telecommunications corporation in a large urban centre in Alberta. The second purpose of the study was to ascertain insights into the process of collaborative needs assessment.

Specific research questions were:

1. What are the generic management activities of middle managers in the organization as reported by middle managers, their subordinates, and their senior managers?

2. Given a list of generic management activities, what

are the training needs of middle managers?

3. What are the preferred formats for meeting training and development needs of middle managers?

4. What elements in the organizational environment are likely to influence the training and development needs of middle managers?

5. What reflections can be made concerning the process of collaborative needs assessment?

Significance of the Study

The study utilized a collaborative, multidimensional approach to management needs assessment. This approach demonstrated that through regular feedback between the researcher and the target population, an assessment was attained which addressed to the needs of subjects in ways that were meaningful to them. Guba and Lincoln (1981) suggested there is a "poverty of traditional evaluations which are likely to fail precisely because they do not begin with the concerns and issues of their actual audiences and because they produce information that, while perhaps statistically significant, does not generate truly worthwhile knowledge" (p. ix). Feedback to participants throughout the process engendered their on-going involvement. The information produced more accurately reflected the concerns and issues of the subjects. Thus, the assessment process was collaborative between the researcher, the middle managers themselves, their superiors, to a lesser extent their subordinates, and the management and development training staff.

Brookfield (1986) declared that one of the important principles of adult education is the facilitation of self-directed, empowered adults. This management training and development needs assessment incorporated Brookfield's principle by addressing the concerns and issues of the learners, thereby giving them a sense of ownership and direction in determination of their own learning needs.

The significance of training and development needs assessment to the field of continuing education has been widely acknowledged by a number of writers such as Monette (1979), Macher (1984), Bell et al. (1977), and Watkins (1989). It was generally agreed among these writers that needs assessments are crucial to planning continuing education activities.

The survey of the literature produced very little research of collaborative approaches to management training and development needs assessment. Most studies reported results obtained by traditional needs assessment methods which focused more on job performance than educational need, and seldom included the subjects in determining the process of the assessment.

The limited research regarding collaborative management needs assessment lead to this study. The findings of the study could benefit not only a selected corporation, but also other organizations concerned with training and developing their managers. Moreover, the study identified crucial components of needs assessment as a process which should be of interest to scholars of continuing education in the workplace.

A further significance of this inquiry resulted from critical reflection on the needs assessment project. Significant interpretative observations related to the act of completing a needs assessment added a qualitative dimension to the empirical results of the study. This critical reflection contributed to a broader understanding of the philosophical and methodolgical base of the needs assessment.

Specifically, the findings of this study contributed the following:

1. A conceptual framework for understanding collaborative needs assessment. This framework may be useful to researchers and practitioners in continuing education venues.

2. Procedures for assessing management training and development needs which considered the organizational environment and included the target population in determining the assessment process.

3. An approach to continuing education planning

appropriate for implementation in the population under study and other similar populations in other organizations.

4. A survey instrument useful for other, perhaps more refined studies, of management needs assessment in workplace settings.

5. Critical reflections about training needs assessments which may inform practitioners and researchers about the experience of undertaking such a project.

Definition of Terms

Continuing education. Jarvis (1983) noted the confusion in definition between continuing education and recurrent education:

> Since the two concepts partially overlap, it is considered preferable in this context to treat continuing education as the term more applicable to the education of professionals. Indeed this term is more frequently employed in this way...as any planned series of incidents, beyond initial education, having a humanistic basis, directed towards the participant(s)' learning and understanding. (p. 19)

Critical reflection. Winter's (1989) definition of reflection was perhaps the most succinct:

> Reflection refers to the crucial process by means of which we make sense of evidence -- whether from specific data-gathering procedures or from our practical experience as it occurs. In order to ensure that we *learn* from experience, then it seems reasonable to suggest that the process of reflection upon evidence is just as worthy of careful thought as the process of gathering evidence. (p. 25)

> Generic management activity. The principal duties, major tasks, specific skills and points of knowledge common to virtually all supervisory jobs irrespective of the kind of work supervised, the

> size of the work group, or the type of organization of which the supervisor is a member. (Macdonald, 1982, p.xi)

Line managers are those persons in the management hierarchy having staff supervisory and coordinating functions at a direct level. In the organization under study, line managers were designated as first level (level I) managers, reporting to middle managers. In this sense, and for the purposes of this study, line managers were middle managers' subordinates.

Middle managers. Having responsibility for a program or function within the organization, the middle managers coordinate and supervise the work of others, usually line managers. Middle managers report to executive managers, usually directors. In the host organization of this study, middle mangers carried the designation, level II manager.

Needs assessment. Needs assessment is the process employed in defining the difference or gap between desired job performance level and the actual performance level of an employee or group of employees in an organization. Monette (1979) defined needs assessment in this way:

> Needs assessment concerns the differential between objectives and achievement. In examining a specific learning group or situation it attempts to define relevant learning needs and to identify how those needs can be met. It gathers information about where a learner or learning group would like to be or should be, where they are currently and the discrepancy between where they are and where they want to or should be in terms of acceptable objectives. (p. 84)

Training and development. Training and development is the term used by management development consultants in the organization that was the site of this study. However, as Watkins (1989) denoted, with the passage of time, the term *training* has given way to *training and development* and finally to *human resource development* to reflect the change in conceptualization from that of activity/process (training) to that which envisions the development of human beings so that they become enhanced resources for the organization (human resource development). "Human resource development is the field of study and practice responsible for the fostering of a long-term, work-related learning capacity at the individual, group, and organizational level of organizations" (Watkins, 1989, p. 427).

Assumptions, Limitations and Delimitations

Assumptions

1. The perceptions of non-respondents were similar to those of respondents.

2. The opinions and advice of the focus group were representative of the target population.

3. Middle managers, their superiors, and their subordinates were aware of and accurately reported the training and development needs of middle managers.

4. The questionnaire, focus group, and semi-structured interview were adequate means of gathering data related to

the research questions being investigated.

5. The techniques used to analyze the data reflected accurately the responses obtained.

Limitations

1. The use of a questionnaire instrument limited the type of perceptions expressed.

2. Collection of data regarding organizational environment was limited to information contained in selected organization documents, a small number of survey questions, and the report of the management training and development staff.

3. Training and development needs were assessed by respondents' subjective perceptual judgments and comparative data collected from their superiors.

4. Data collected by means of the questionnaire were limited in the following ways:

a) Some respondents may have misunderstood some questions.

b) Some respondents did not respond to some questions.

Delimitations

1. The study was delimited to the middle managers in a selected telecommunications corporation. For comparative purposes, the questionnaire was administered to senior managers in the same corporation.

2. The timeframe considered regarding change was relatively short -- three to five years. Long term training and development, over the career of a middle manager, was not considered.

3. The needs assessment was limited to *generic* management activities and did not address the need for training and development of middle managers within their areas of technical or professional competence.

4. The needs assessment was based upon the categories of generic activities generated by respondents. The assessment was therefore limited to those self-generated categories.

Outline of the Dissertation

Chapter I has introduced the study, provided the contextual setting for the study, significance of the study, a statement of the problem and sub-problems, and definitions of significant terms used in the study.

Chapter II consists of the review of the literature. Chapter III discusses the research design and methodology of the study.

Chapter IV provides an analysis of the findings of this inquiry. The chapter is organized around the four empirical research questions of the study.

Chapter V is devoted to reflections upon the research findings and upon the processes employed. Relevant observations and emergent themes are discussed.

Chapter VI contains the summary, conclusions and implications derived from the study.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The review of the relevant literature began with a systematic search of periodical indices, card catalogues of libraries at the University of Alberta, dissertation abstracts, dissertations, and the ERIC document reproduction index. The review included information about continuing education in workplace settings, the nature and purposes of needs assessment, related studies, conceptual framework for needs assessment, critiques of the current practice of needs assessment, and literature concerning reflection in practice and research, followed by a chapter summary.

Continuing Education in the Workplace

Karen Watkins (1989) reviewed continuing education in the workplace. She indicated that "adult education in business and industry is the fastest growing area of practice in the field of adult education in the United States" (p. 422). She noted, that adult education in the workplace as a field of inquiry was relatively young and not clearly defined.

Continuing education for business and the professions is an enormous enterprise. Nowlen (1988) reported a number of American studies which indicated that "16.8% of all employed persons participated in one or more formal continuing education experiences" (p. 1). He reported further that "Employers estimate that well over one-third of middle and upper management participate in at least one continuing education program annually" (p. 1).

Nowlen (1988) described other dimensions of the continuing education enterprise that included training and development in the military, continuing education carried out by professional associations, and the continuing education programs in business, the professions, and general interest courses offered through colleges and universities. In the workplace, he found:

> The annual investment of all U.S. employers in executive and professional education as well as white- and blue-collar training is estimated at more than $60 billion when fully costed, that is, when salaries and wages, travel and per diem, loss of billable time, or diversion from regular duties are added to instructional costs. This is more than twice what all 50 states appropriated for public higher education and nearly half of what all states spent on kindergarten through twelfth grade (K - 12) education in 1984. It must be said, too, that if anything, these are conservative figures and certainly imprecise. (p. 2)

Watkins (1989) expanded the measure of continuing education in the workplace by noting that funding of training and development is often provided by governments as part of economic activity. "In Canada, vocational training responsibility is shared by the provinces and the federal government, though Canadians have had little success in involving employers" (Watkins, 1989, p. 423).

Effective planning of the continuing education in the workplace can be informed by needs assessment. Sork and Caffarella (1989) concluded, "Literally every program planning model published in the past thirty-five years includes a step or element referred to as *needs assessment*, or labeled with an accepted synonym" (p. 236).

Needs Assessment

An early distinction is required when looking at the field of needs assessment, namely, that the term needs assessment is widely used by educators, human services personnel, and government officials as well as human resource development specialists. It seems there is little agreement in the use of the term.

For educational planners, government officials, and human services personnel, the term needs assessment is most commonly used to refer to a large community-based study. Witkin (1984) observed that the most common purpose for educational and human service agencies to engage in needs assessment was to document applications for funding "to show that the funded program will address critical unmet needs" (p. 19). Needs assessments are frequently completed by government or human services planners "to elicit the concerns and needs of all segments of the population in the community" (p. 23).

The term _need_ has multiple meanings. Bell et al. (1977) pointed out that, historically, need was often defined as a personal assessment such as a felt difficulty or problem. Hay and Linn (1977) and Kaufman and English (1972) saw need as the gap between what an individual can do and what someone in authority determines that person should be able to do. This definition of need could be considered a demand need as it excludes the individual's own perception of need.

Lee and Roadman (1991) identified five types of needs to consider when planning a needs assessment:

1. _Normative need_ - compared to an industry standard.

2. _Felt need_ - what employees think they need to solve a problem.

3. _Expressed or demand need_ - when management determines that certain training is needed for employees to perform more effectively or efficiently.

4. _Comparative need_ - when one division in an organization is functioning at a lower level than other divisions who accomplish the same tasks.

5. _Anticipated or future needs_ - when resources are projected for a division of a company in order to achieve maximum performance.

Lee and Roadman (1991) used the following scenario to illustrate the importance of a methodical needs assessment:

> If the management of an organization identifies a need and prescribes the training to fill that need, this is an expressed or demand need. If they query their employees, this is a felt need. If one division of a company is functioning below another that performs the same job, this is a comparative need, and if that level of functioning is lower than industry standards, there is a normative need. (p. 4)

Training needs assessment is based upon a simple concept: it attempts to define the gap between the desired performance level and the actual performance level. Once the performance gap has been determined, the organization or the individual can consider if the gap can be closed with training. Mager (1992, p. 6) indicated that training is appropriate only when two conditions exist: there is something that one or more persons don't know how to do, and they need to be able to do it. Mager (1992) made the significant point that training is concerned with performance. Performance can be impeded or improved by a variety of interventions, only one of which is training.

In considering needs assessmentin training situations, it is important to recognize that the context for the assessment is the workplace. The organization is interested in assessing the need for training that will improve worker performance. Other human needs, however worthy, are not within the purview of the assessment. This view, however, has been challenged by more recent literature (e.g., Marsick 1987a; Nowlen, 1988; Watkins, 1989; and Welton, 1991).

The training needs assessment literature demonstrated considerable agreement on the importance of conducting needs assessment for successful training and development activities. Bowman (1987), Rossett (1987; 1990), Duncan (1989), Lee and Roadman (1991), and Nowack (1991) all noted that needs assessment provided the necessary focus for successful training.

Bowman (1987) indicated that in addition to properly focusing the training program, a needs assessment produced other benefits. In addition to describing the training needs of the target group, the process also generated participant commitment, and increased the level to which the organization's management supported the training effort. It also increased the human resource department's credibility within the organization.

The most noteworthy finding in Bowman's (1987) study, however, was that those employees who participated in the needs assessment process were significantly more satisfied with the training than those who did not participate in the needs assessment.

Rossett (1987) reported a variety of additional purposes for conducting needs assessment: seeking employee attitudes toward performance problems, seeking management priorities, attempting to ascertain problems and their causes, and increasing the buy-in of all parties to the training which may result from needs assessment.

Hughes (1992) refined and validated an instrument for assessing management development needs in an Oklahoma corporation. He concluded that "highly detailed needs assessment instruments are not necessary in order to identify development needs, especially when used in conjunction with a focus group or other follow-up process" (p. 88). The instrument (questionnaire) and focus group process were utilized to increase the involvement of the target population of managers. "When participants enter training knowing the content as well as the reason the training was scheduled, a greater return on the training investment should be realized" (Hughes, 1992, p. 91).

Despite the strong advocacy for needs assessment reported in the literature, other writers such as Saari et al.(1988) and Witkin (1992) have reported that needs assessment may not be used in practice to the extent suggested by theorists. A number of postulations could be made about the under-utilization of needs assessment by training professionals: unfamiliarity with the technique, lack of time or money, an assumption that the training needs are readily apparent, or negative experiences with previous needs assessments.

Saari et al. (1988), in a survey of management training and education practices of 611 companies with at least 1,000 employees per company, found that less than one-third of companies conducted needs assessment to determine development needs of managers. Nonetheless, companies reported using formal training programs, task forces, mentoring, job rotation, and career planning strategies for management training.

Witkin (1992) reported the use of training needs assessments in business and industry which found that over a quarter of the professionals responding to the survey did not use training needs assessments, and 20% used the intuition of training staff, rather than training needs assessment, as a foundation for training programs.

Related Studies

Several studies have been reported which attempted to assess management development needs. Batley (1990), used a combination of techniques in determining the development needs of professional engineers in New Zealand. He initially developed a questionnaire based upon interviews conducted with a small sample drawn from the membership in the professional society. He then sent copies of the survey questionnaire to a representative sample of the population of engineers. Development needs in business management subjects were identified by the majority of respondents. Management skills most often selected were: 1) personal and interpersonal skills: 2) general management and decision making; 3) individual, group, and organizational behaviour; 4) finance and accounting; 5) personnel management; and 6) project management.

Barr (1980) conducted a needs assessment of management development needs for the Bell System. He compared the skills of newly appointed supervisors to those of competent experienced supervisors. The instrument he employed segregated competencies into three clusters: 1) Survival Skills -- planning, controlling, problem solving, and giving feedback; seen to be prerequisite to the basic success of all managers; 2) Facilitative Skills -- coaching, motivating, time management, communication and informal communication; these skills were closely related to the leadership aspect of management, involving getting others to accomplish work; 3) Least essential skills included self-development, written communication, knowledge of organization, career counselling, and formal presentation skills.

Barr (1980) and Macdonald (1982) both reported the same job studies within the Bell System. At the time, American Telephone and Telegraph (AT&T) was the largest non-government organization in the world. AT&T employed 170,000 first level supervisors and 60,000 second level supervisors. AT&T needed specific knowledge about the training needs of its supervisors because of the sheer number of promotions occurring each year (18,000 to first-level positions and 5,000 to second-level). The organization also recognized that technological advances and changes in the workplace were impacting the supervisory job. The AT&T job studies were relevant to this research because they attended to the *generic* managerial aspects of supervision. That is, the principal duties, major tasks, specific skills, and knowledge required of all supervisory jobs. The AT&T study also recognized that changes in the nature of management and supervision were occurring.

The AT&T study commenced with an investigation of middle management (second-level) generic job functions.

> It seemed that an important factor contributing to the effective performance of any manager is a clear understanding of his or her role and function in the organization. It also seemed important that the manager's subordinates view the job of their boss in the same way, so that they will carry out their duties in a manner that will support the defined role. It is equally important that higher-level managers in the reporting chain also perceive the second-level job in the same way as the incumbent so that their expectations will match reality. (Macdonald, 1982, p.17)

Details in the process of determining the job function of second-level managers varied from those used by this research. Macdonald (1982) reported that "The approach taken was to interview second-level supervisors on the job and compare their perceptions with those of managers at other levels" (p. 17). Using open-ended questions, interviews were conducted with 47 second-level supervisors and 35 managers at other levels. It is interesting that the AT&T study collected data from a relatively small sample, considering the large target population that was available. The AT&T study attempted to create an ideal performance profile against which middle managers could be compared. Such comparisons do not account for individual strengths and limitations, or individual perceptions of performance or need for training.

Green (1987) conducted a survey of 62 senior executives across Canada. He determined the 10 most important management and executive development priorities in order of importance to be: 1) communication systems and skills; 2) creative, transformational, or inspirational leadership; 3) management development; 4) management of change; 5) strategic planning and management; 6) business-government relations; 7) managing technology; 8) marketing strategy; 9) organizational effectiveness; 10) basic managerial skills.

Smith and Dubois (1993) reported the process used to assess management development needs at the New England Telephone Company (NET). Although they did not provide a list of the 18 management competencies identified by their study, they detailed their needs assessment process.

As part of an initial "front-end macro-needs analysis and planning phase" (Smith and Dubois, 1993, p. 302), an advisory committee of 16 middle managers who were considered opinion leaders was formed. This committee had overall responsibility for the project, including assisting in the development of a competency based management development model, providing advice on the data collection protocols, interpretation of the data, and providing advice and recommendations of a general nature.

The advisory committee determined that the project would have the following goals:

1. The needs of the target population would be determined by completing an empirical study.
2. Three project products would result: (a) a job performance model for executives and middle managers, (b) an assessment of these managers' strengths and needs for improvement, and (c) the expectations held by potential participants for a "developmental process."
3. The project would involve as broad as possible a base of persons in planning and conducting the research.

Like the AT&T study (Macdonald, 1982), the NET study (Smith and Dubois, 1993) developed a list of management competencies by analyzing the activities of a sample of exemplary managers. Behavioral indicators for each competency were developed. The competencies and behavioral indicators for each formed the basis of a needs assessment questionnaire. Smith and Dubois (1993) elaborated:

> The questionnaire consisted of behavioral statements derived from the consultants' records, brainstorming products by the advisory committee, and individual interviews with three of the exemplary managers. Five behavioral indicators were associated with each competency statement in the questionnaire. (p. 307)

It is interesting that the NET questionnaire was not administered to all senior and middle managers. Rather, the questionnaire was mailed to 60 corporate executives considered to be representative of all levels and departments within the whole target population. The 60 managers were considered opinion leaders. The respondents were asked to judge the extent to which performance needed improvement and the changes that could bring about such improvement. The questionnaire did not elicit information concerning preferred ways in which management development might be delivered. Such management development methods were suggested by the advisory committee and representatives from senior executive levels.

It can be observed that the NET study fell short of its goal to include as many persons as possible in planning and conducting the research. Nonetheless, the frequent involvement of the advisory committee (consisting of middle managers) attempted to meet this objective.

Thomas and Sireno (1980) compared management development across various industries. They categorized management competencies under three major categories: 1) communications, 2) leadership, and 3) control. It was found that managers in different organizations and industries had varying development needs. Thomas and Sireno (1980) concluded that due to this variation, training programs must be custom-designed in order to be effective. The key to this customization was properly conducted needs assessment.

Critiques of Needs Assessments

In order to adequately reflect upon the needs assessment process used in this research, the literature of needs assessment was reviewed to determine the nature and substance of the critiques of needs assessment. The literature critically examining needs assessment is not extensive, however, important contributions have been made by such authors as K. Patricia Cross (1979), Monette (1979), Kimpston and Stockton (1979), Elias and Merriam (1980), Marsick (1987a), Marsick (1987b), Watkins (1989), and Davidson (1993).

Kimpston and Stockton (1979) examined five models of needs assessment and concluded:

> All models ignore a critical criterion -- the attainability of goals. If a goal is seen as a legitimate and priority concern, and if, through needs assessment, discrepancy in goal attainment is evident, critical questions remain regarding establishing priorities for planning. If we are to grapple effectively with the realities of curriculum planning, we must not only identify real problems, as Kaufman suggests, but we must also set realistic priorities among these problems. (p. 21)

The authors' major criticism of needs assessments was that they failed educational planners by lacking clear direction in the initial activity of setting priorities.

Elias and Merriam (1980) also addressed this issue of priorities. They pointed out that adult education programmers are confronted with conflicting or multiple demands for limited educational resources. By saying that needs are being met "seems initially to offer an opportunity to move part way into the field of value judgments thus giving the organizer the professional authority which he needs to decide on priorities" (p. 37). Elias and Merriam (1980) pointed out, however, that such statements about need are much like statements involving the word "God" or its analogues -- cutting off further comment. They concluded that "needs statements are riddled with value judgments" (p. 39).

Elias and Merriam (1980) further critiqued needs statements:

> It is obvious that the matrix of values to which the educator subscribes is critical. It is on the basis of what he [sic] believes to be important that he will begin to assess and ascribe "needs" within the area for which he is responsible. Up to a point therefore the educator is inevitably infiltrating his own views about what is educationally relevant and important. He elects those areas of concern among his potential students which he is prepared to make his concern and it is the organiser of programmes who mainly determines what is a valid educational need and what is not. Adult education may be demand oriented but its professionals can choose which demands shall be recognized. (p. 40)

K. Patricia Cross (1979) examined approximately 40 needs assessment studies and determined that needs assessments had three general purposes: 1) providers of educational services are interested in what their market (adult population) wants; 2) public agencies are interested in whether or not all segments of the population have equal access to educational programs; and 3) researchers are interested in furthering knowledge about the attitudes and interests of adult students. Cross (1979) found that only one-third of the studies she reviewed had effectively used the data they collected. She determined that making good use of the data collected was limited because

> in many cases the things people worry about in needs assessments, such as the representativeness of the sample or the design of the interview, are given far more attention than the analysis and interpretation of the results. We have spent considerably more time and money collecting the data than interpreting and using it. (p. 7)

Cross (1979) also pointed out that "needs assessments are necessarily based on the current perceptions and understandings of the respondents. They are better at telling what is than what might be" (p. 11). She reflected that researchers have had difficulty using needs assessments to introduce new concepts and new ideas to respondents, only surveying what is known, not what could be imagined or demanded in the abstract. She analyzed the development of Elderhostels as an example of a positive educational experience for seniors which would not have happened if conventional analyses and interpretations of needs assessment data had been utilized. She used the Elderhostel example to point out four types of needs assessment errors:

1. Relativity. Because the number of older persons who express an interest in learning is small *relative* to other age groups, an error could have been made that programming would not be profitable for such a population.

Cross (1979) pointed out that because the population of older persons is so large, even a small percentage interested in college level learning still represents a very large potential market (300,000 in the case of Elderhostel).

2. Interpretation error. Findings are open to interpretation. In the case of older persons, Cross pointed out that most needs assessments found that transportation to educational sites is a common barrier. However, a pleasant weekend trip to attend Elderhostel is not considered a transportation problem as compared to trying to get across town at night to attend an evening course.

3. Lumping error. Cross (1979) pointed out how most needs assessments lumped everyone over the age of 55 or 65 together in a group labelled "the elderly." There may be strong differences in interests between the 55 year-olds and the 75 year-olds, "but because of the lumping error in needs assessments, the young-old are not a visible group; they appear at the old end of the age spectrum and hence are categorized and pictured as 'elderly'" (p. 14).

4. Small picture error. Data from the needs analyses come in small fragments, but an educational program is more than the sum of its parts. In the case of the Elderhostel program, it was the total experience rather than the classes per se that became the primary attraction.

Cross (1979) made further comments about the needs assessment process:

> As I look back over the needs assessments of the last five years, I think the greatest inadequacy has been, not in the technical niceties of research design, but in the failure to assess the information needs of the needs assessor and then to design a method of data collection appropriate to those needs. (p. 15)

She concluded her critique with the following note: "The science of needs assessment is considerably ahead of the art, and my hope for the future is that we achieve a better blend between the art and the science of needs assessment" (p. 18).

Monette (1979) has been widely quoted in the literature for his article: Need assessment: A critique of philosophical assumptions. He advocated that educators adopt a critical examination of the causes of felt need.

Monette (1979) revealed through a philosophical analysis of the literature of needs assessment that there was a predominantly technical orientation to the assessment process. He argued, "Needs are not mere empirically determinable facts; they are complex value judgments" (p. 84). Monette (1979) examined the core beliefs and values of adult educators and concluded:

> As we have seen, the emphasis on pre-determined, fairly specific behavioral objectives is based on a production-line model of program planning. Planning is viewed in terms of the product of the educational process. This means, namely the educational activity, is logically ordered to that end, the specific behaviours to be learned. Such an approach devalues the interaction of people, inasmuch as the open-endedness, fluidity and risk involved in human interaction are conceived as flaws in a logical system -- obstacles to the effective prediction and control of educational

> products and processes. The interaction of persons is viewed as a means to an end; the pre-determined 'product' of education is given precedence over the people and personal relations involved. (p. 91)

Monette (1979) moved from his critique of the overly-technical approach in education to call for "the critical examination of the values and assumptions underlying the technology..." (p. 93). This critical examination he termed philosophizing in adult education, "that is, to think about what we are doing, to think critically and reflectively rather than mythically and naively, to wonder at life, wide-awake, ready to respond to every new experience with a wholeness of being" (p. 93).

Marsick (1987a) critiqued the paradigm under which most workplace learning has developed. She felt that the new focus in workplace learning should be on *learning*, whereas the existing paradigm has been on training or education. She saw training as short-term activities that emphasize practical skills, and education as the development of generic knowledge, skills and abilities. Noting that the nature of the workforce and the workplace is changing, Marsick (1987a) saw that the underlying paradigm to workplace learning needed to shift:

> The learning involved in this kind of change cannot be reduced to the individual acquisition of yet another set of technical skills, which is the focus of many behavioral training models. Many of today's learning problems are embedded in the complex personal, social and organizational habits that cannot be solved primarily by a preconceived technical solution. Skills are still needed, but

> they are only part of a process that includes an examination of these habits as well as consensual agreements about the nature of the problem and the way in which people should work together to solve it. (p. 4)

Collins (1989) noted that much of the literature on needs assessment was repetitive, and devoted to development of technique while ignoring issues of values and ethics. He was particularly critical of survey instruments:

> Emphasis on instrumental design assumes considerable importance in the preparation of a needs assessment survey and the problem of obtaining anywhere near the degree of satisfactory consensus-forming participation facilitated within groups becomes a methodological issue. Sometimes the statements of educative needs that appear on survey questionnaires for ranking and rating by respondents are first identified in group situations. The process can be very time consuming and requires careful attention to detail. Overall, though, the prospects of critical analysis and thoughtful consideration of the educdational issues at stake by intended participants becomes even more remote when recourse is made to survey questionnaires. (p. 90)

Collins (1989) argued that emphasis on techniqe and the collection of data from survey questionnaires proved beguiling to program administrators, especially those impressed by technique and "data whose complexity belies analysis by conventional methods" (p. 92). He wrote:

> Unhappily, it eschews any prospect for critical reflection on taken-for-granted assumptions about the nature of education and training within the prevailing operational paradigm of the institution. Thus, a very conservative management perspective is sustained through the deployment of an overly-wrought technique. Further, an illusion that the deployment of carefully designed needs assessment technique allows us to dispense with the difficult task of interpreting situated meanings for ourselves undermines prospects for

> learning communicative competence. The administration of expertly designed questionnaires ensures that genuine inter-subjective communication about relevant needs and what stands in the way of their fulfillment is abstracted from the concrete situation. (pp. 92-93)

Collins (1989) concluded that reliance on instrumental technique permitted neatly packaged individual, but standardized, learning programs, however, "no need to ask why his or her clutch is slipping in the first case nor about the technician's complicity in this state of affairs" (p. 93).

Recently, Davidson (1993) critiqued needs assessment in adult and continuing education from a perspective similar to that of Monette (1979). Davidson (1993) used constructionist sociological theory "to critique conventional perspectives on needs in adult education and to theorize needs-making activity as a social-historical accomplishment" (p. 131).

He wrote that adult education activity is largely a private sector enterprise and that universities, colleges, and private training centres are likely to compete for corporate training contracts. In this context, Davidson (1993) noted: "When the subject of needs and needs assessment is raised at conferences, the emphasis is not on making apparent historical accomplishments but on honing one's marketing skills" (p. 135). His concern appeared to be that the huge financial benefits available through private sector training may influence universities and colleges (and their faculty) to continue to promulgate the traditional needs assessment processes, even if such processes might be contradictory to values held by the educational institutes.

Davidson (1993) found that contemporary needs discourse continued to view "needs as objects which are born at the conjuncture of 'what is' and 'what ought to be' and to proclaim the adult educator as a passive observer who identifies and responds to needs of learners" (p. 133). It was his contention that such a perspective does not consider the process by which events become needs.

Conceptual Framework for the Needs Assessment

Witkin (1984) commented on needs assessment in educational and social programs:

> There is no one model or conceptual framework for needs assessment that has been universally accepted, and there is little empirical evidence of the superiority of one approach over another. Moreover, there often appears to be an inverse ratio between the elegance and completeness of a model and its widespread acceptance and implementation. (p. 29)

Witkin's (1984) observations apply equally to training needs assessment models.

This review examined Geroy's (1989) Single Organization Assessment Model because it described a valuable approach that considered multiple inputs or perspectives to needs assessment. The elements of the Single Organization Assessment model fitted well with the research questions relating to this needs assessment study.

Nadler's (1982) Critical Events Model was selected primarily because it clearly outlined the procedure used in conducting a needs assessment. It appeared to be logical and straightforward.

Single organization assessment model

Geroy (1989) described four associated models for systematically determining the human resource development needs of organizations or formalized groups of workers. He indicated that "needs assessments in different environments require different strategies" (p. 1). The four models describe the environment and the interactivity of the participants in the needs assessment process. The choice of model is dependent upon the purpose and the participants. Simply put, the researcher/planner may determine that needs assessment deals with: 1) a single industry, including many organizations; 2) many industries in a political/geographic area; 3) public sector intervention strategies for economic development; or 4) a single organization.

All four of Geroy's models utilize the same job analysis process. It is a "linear systematic process" (p. 12) that determines what skills and knowledge expert workers use. Individual worker performance can then be compared against the template of the expert worker.

The Single Organization Assessment Model may address the entire organization, some sub-unit, or another identified group within the enterprise. Geroy (1989) indicated that this kind of needs assessment activity is frequently driven by the strategic plan of a particular organization or enterprise.

The Single Organization Assessment Model focuses on the internal environment of the organization, although it may utilize outside resources such as consultants or educational institutions which have the kinds of resources and capabilities necessary to address the issues identified by the organization. By utilizing outside resources, an issue identified by Saari et al. (1988), Block (1991), and Witkin (1991) can be addressed, namely, that training professionals frequently assume that they understand the nature and causes of training needs and are therefore able to prescribe the proper solution without any structured investigation. As Zemke and Kramlinger (1982), pointed out:

> Managers and others who are responsible for getting things done through people usually have a highly developed clinical sensitivity to "things not being right around here," but they don't always have the training, knowledge, objectivity or time to adequately pinpoint the cause or causes of the problems they perceive. (p. 3)

<u>Critical events model</u>

Nadler's (1982) Critical Events Model (CEM) is made up of a series of events that should take place in order to design a training program. While the CEM is considered a curriculum planning model (Lagenbach, 1988), it was used here because 1) the model is intended to increase organizational effectiveness, 2) the common element throughout the model is evaluation and feedback, and 3) the first three events of the model focus on aspects of need identification. This model is particularly appropriate for what Darkenwald and Merriam (1982) categorized as a noneducational organization, wherein the education or training is secondary and supportive of other goals.

The first event in the CEM is to "identify the needs of the organization" (p. 39). An organizational need could arise as a result of technological change, new government regulations or a desire to improve products or services. Nadler (1982) indicated that once a need is identified and agreed to by those people affected by it, alternatives should be considered before a decision is made to continue designing a training program to satisfy the need. A number of nontraining actions can be taken that could resolve the need.

"Specify job performance" is the second event in the Critical Events Model. The job to be specified is the one identified as relating to the need of the organization. According to Nadler (1982), the need indicates "the job is not being performed in the way somebody (or some group) in the organization thinks it should be performed" (p. 47). It is crucial that agreement be reached about the role of the job within the organization and its specific performance requirements. Sources of information useful to the process of job specification included 1) job incumbents, 2) peers, 3) supervisors or managers, 4) professionals who teach or conduct research about the kind of job in question, and 5) written documents such as performance reviews or production records.

Fundamental to each event in the Critical Events Model is evaluation and feedback. Nadler (1982) recommended that once job specification data have been collected and transformed into easily communicated information the data should be shared with potential learners as well as supervisors and managers. A meeting or series of meetings may be expedient to answer these questions (pp. 79-80):

1. Is there still agreement on the problem (needs)?
2. Is there agreement on job performance?
3. Should consideration be given to alternatives to training?
4. Will time be allocated for training?

If consensus on these questions is reached and training is still indicated, the next critical event, "identify learner needs," is undertaken. In this event, the intention is to identify gaps that prevent an individual from performing according to the specifics agreed upon in the job specification event. Nadler (1982) pointed out that not all performance deficits are instances of learning needs. The CEM uses needs that are directly related to job performance. Other needs, which might be labelled wants or interests are not examined. Mager (1992) made an identical demarcation:

> We train only because there are things that people cannot do that they need to be able to do to perform their jobs. Training for any other reason is either a fraud or an extravagance -- or both. (p. 7)

It was clear that identifying learning needs can only follow after organizational needs (Event #1) and job performance (Event #2) have been ascertained. The primary source of information about learning needs is the person(s) actually doing the job. Nadler (1982) cautioned that unless the gap between an employee's performance and specified job performance was attributable to a new process or product, the employee may feel threatened and react with hostility or negativism.

Group meetings with all employees in the job, or with representative groups may be the most efficient ways of collecting data. Observation of employees on the job could provide useful information regarding learning needs. Nadler advised this procedure may indicate who needs training and who does not, thus reducing false expectations and saving training costs.

Questionnaires should be short and directly related to the job being performed. Evaluation and feedback about this critical event may create difficulties for some employees who feel that the information is too sensitive. Sharing the list of identified needs with supervisors is imperative, but individually identified needs might only be shared with that individual rather than the group in order to protect the privacy of the employee.

Nadler (1982) suggested a series of questions to be asked at this stage:

1. If the needs are met, will job performance become accepted?
2. If the needs are met, will the (original organizational) problem be solved?
3. How important are the needs?
4. Should the job be redesigned?
5. Should tasks be reallocated?
6. Should subordinates be transferred rather than trained?
7. What is the availability of the learners? (pp. 100-101)

If training is still indicated by the responses to these questions, the next critical event in the model is commenced. However, the remaining events in the CEM are concerned with development of curriculum and will not be elaborated here.

Discussion of the models

Two models of needs assessment have been presented: Geroy's (1989) Single Organization Model and Nadler's (1982) Critical Events Model.

The Single Organization Model was useful in centering planning on the type of organization under study and on the interactivity of the participants in the needs assessment process. Use of the model "insures that the kinds and categories of required knowledge are determined in a systematic manner which reflects the context, the internal and external dynamics, and the environmental influences on the organization" (Geroy, 1989, p.11).

As the name implies, the Critical Events Model (CEM) provided an outline of a process to follow in conducting a needs assessment. It guided the study in a logical, systematic series of events in the needs assessment: 1) identify the needs of the organization; 2) specify job performance; 3) identify learner needs.

It could be observed that the CEM provided a natural connection to the Single Organization Model. The CEM concerned itself with procedures to assure feedback and formative evaluation. However, it was noteworthy that these procedures were prescriptive rather than collaborative. Feedback and evaluation results in the models were communicated unidirectionally from the researcher to the target audience, but not necessarily in the other direction. This collaborative aspect was missing in both models. When Geroy (1989) wrote about the "interactivity of participants in the needs assessment process" (p. 2), he was actually referring to the interactivity of the participants with their internal and external environments, rather than with the process of needs assessment per se.

The models encompassed job specification as a crucial component in the needs analysis process. Indeed, it could be said that job specification, determining the performance competencies or activities of a job, was a fundamental step in needs assessment. All training needs assessments include job specification. Some studies such as Macdonald (1982), Geroy (1989), and Smith and Dubois (1993) included detailed methods to precisely identify job activities. Other studies, such as Green (1987) and Hughes (1992), adapted pre-existing lists of management activities in order to obtain the job specification.

Conceptual model

A conceptual framework to guide this study was derived from Geroy's (1989) Single Organization Assessment Model and Nadler's (1982) Critical Events Model. The utility of the Single Organization Model to this study was that the model provided a conceptual frame or approach to examine the contextual environment of the organization. The Single Organization Model provided a multidimensional perspective to the needs assessment process.

Chief differences between the Single Organization Model and the model used in this study are: 1) This study surveyed the perceptions of mid-managers' supervisees, and the mid-managers' superiors (senior managers) which Geroy's (1989) model did not specify, and 2) The Single Organization Model determined need by a comparison of actual worker performance against an ideal (or superior) performance profile.

The conceptual framework used in this study is represented in Figure #1 and begins with the organization perceiving (internal sensing) that a training need might exist. In the case of this study, management training consultants, their training manager, and the director of Human Resource Development felt that the middle managers of the corporation potentially required additional training and development. This perception was based on feedback from the middle managers and information from an internal customer satisfation survey regarding the training department. Strategic planning at senior levels of the corporation produced a number of training initatives that also impacted the middle management group.

After the decision was made that a needs assessment was in order, the next step in the process was need identification. The determination was made that generic management skills should be investigated. Planning of the assessment proceeded, resulting in collection of data from middle managers, line managers, and senior managers.

Next, a focus group was formed to review the collected data and to guide the development of the questionnaire. The focus group also pilot-tested the questionnaire.

The questionnaire was used in a survey of the middle managers and the findings analyzed. A report of the findings together with information regarding organizational

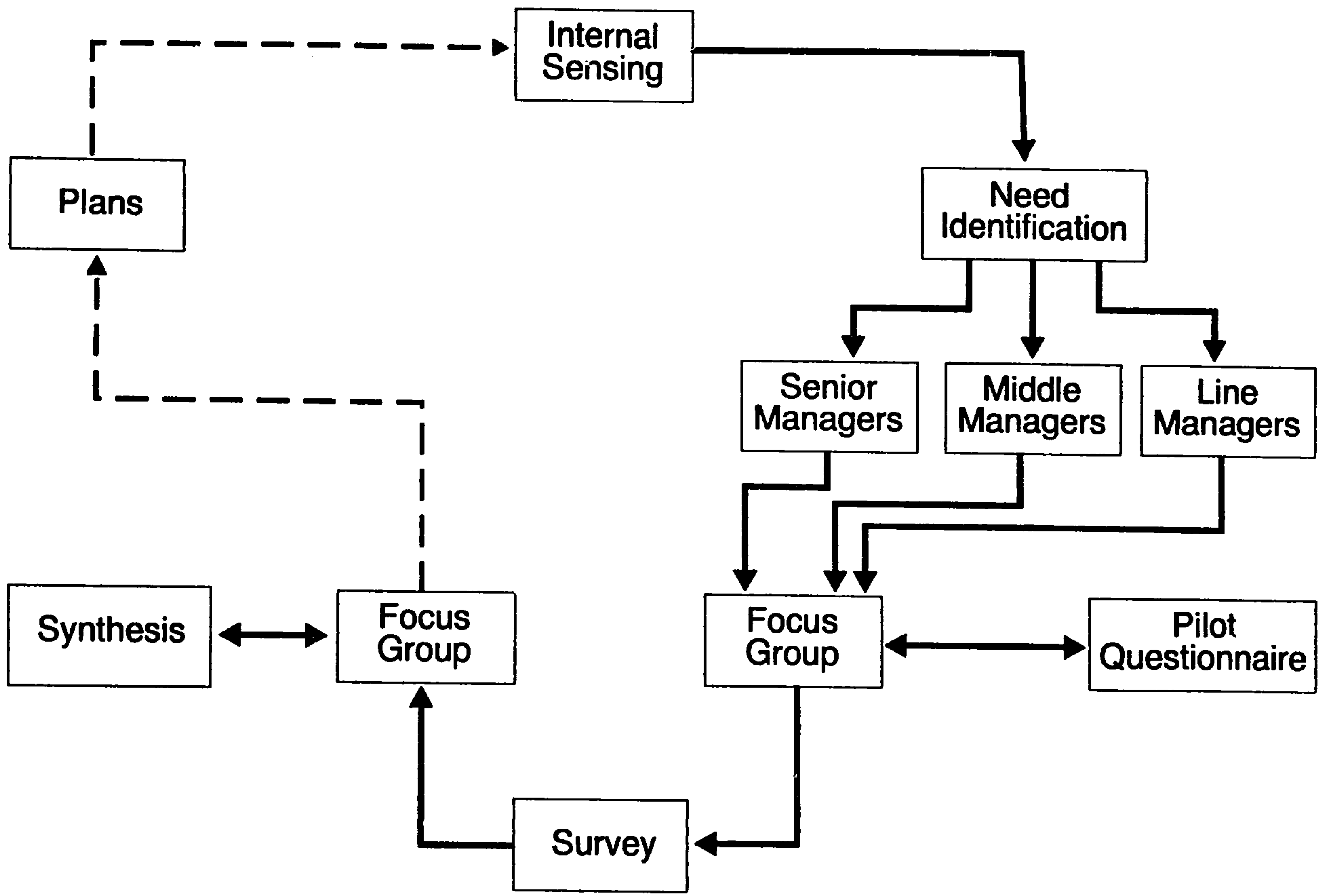

Figure #1 : Conceptual Outline of Research Process

elements impacting on middle managers' training needs, the data from the selected organizational documents, and information concerning preferred training formats were synthesized and presented to the focus group.

The process continued by producing training programs (plans), which in turn, later produced feedback and evaluation information for the training department. Thus, the needs assessment process was conceived of as a cyclical process.

In Figure #1, the broken lines leading from the focus group to plans and from plans back to internal sensing represent aspects of the needs assessment cycle that were not considered in the study.

Reflection

Critical reflection on the needs assessment process was viewed as an integral part of this study. Boud, Keogh, and Walker (1985) regarded reflection in the context of learning as "a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations" (p. 19). They brought three components of the process into focus:

1. Only learners themselves can learn and only they

can reflect on their own experiences.

2. Reflection is pursued with intent. "It is not idle meanderings or day-dreaming, but purposive activity directed towards a goal" (Boud, Keogh, and Walker, 1985, p. 11).

3. The reflective process is complex, in which affective and cognitive activities are closely interrelated and interactive.

Winter (1989) found that most texts in the field of action research assumed that reflection was a rather straightforward process. He developed six principles for conducting action research which offered a methodological foundation to overcome what other writers had merely assumed. He offered the following definition of reflection:

> Reflection refers to the crucial process by means of which we make sense of evidence -- whether from specific data-gathering procedures or from our practical experience as it occurs. In order to ensure that we *learn* from experience, then, it seems reasonable to suggest that the process of reflection upon evidence is just as worthy of careful thought as the process of gathering evidence. (p. 25)

Reflection has been seen to be part of the qualitative research paradigm by such authorities as Elliott and Adelman (1973), Carr and Kemmis (1986), Schon (1988), and Bogdan and Biklen (1993). "Reflection-in Action" was a foundational concept in Schon's (1983) important work, The Reflective Practitioner. Other writers such as Kemmis and McTaggart (1988), Winter (1989), Carson et al. (1989), and McKernan (1991) have viewed reflection as a necessary part of action research.

In relating to research on workplace learning, Watkins and Marsick (1987b) called for new roles in human resource development that move from traditional classroom training to learning throughout the organization. Critical reflection of practice was seen to facilitate the required paradigm shift from traditional approaches towards these new roles.

Nowlen (1988) also called for "fostering action research" (p. 214) to inform new developments in workplace education:

> Conduct of descriptive research related to the competence model, and the survey instruments and interviews related to identifying what executives and professionals really do for a living, educate those who are surveyed. Prescriptive and often romantic myths about professional life are harder to sustain after persons have inventoried the situation-to-situation tasks that are the content of a week or month at the office, hospital, school, or engineering firm. Guided self-analysis of critical incidents in performance are revelatory moments when, for the first time, professionals and executives note the frequency with which cultures and human-development issues are as deeply influential as knowledge and skill mastery. (p. 214)

Similarly, this study contributed to a new understanding of the training needs assessment process by critically reflecting on the action/processes used in the study. While the empirical findings of the needs assessment were prima facie of importance, it was also of value to ask what could be learned from the process of completing a collaborative needs assessment? Darkenwald and Merriam (1982) provided a clear rationale for the synthesis of theory and practice: "theory without practice leads to empty idealism, and action without philosophical reflection is mindless activism" (p. 37).

Marsick (1987a) presented her thoughts about the use of empowering management development strategies grounded in Freire's notion of praxis: "Praxis involves critical reflection on experience that leads one to see a problem in an entirely new way, to reformulate the problem and to try out new strategies to solve the problem, many of which involve collaborative action with peers" (p. 11).

Recent thrusts in adult education literature (e.g., Brookfield, 1985, 1987; Schlossberg, Lynch, and Chickering, 1989; Little, 1990; and Mezirow, 1990) have used such catchwords as "critical thinking," "critical theory," and "critical education." The word "critical" has a negative connotation based in cultural norms which value being non-judgmental or nice to others. To be critical is usually seen as an undesirable behaviour or personality trait. Grammatically, the usual form of the word is an adjective; it describes the noun, whether it be thinking, theory, or education. These terms, when prefaced by "critical" characterize the focus as one which includes "careful and exact evaluation and judgment" (Webster, 1984).

Halpan (1984) differentiated between the non-directed thinking involved in daily routines or habits, and directed thinking engaged whenever a person has to solve a problem, make an inference, or arrive at a decision. This composite or related cognitive actions he called critical thinking. Ruggiero (1988) referred to such actions as "how to recognize and/or construct sound arguments, applying the principle of formal and informal logic and avoiding fallacies in their reasoning" (p. 2).

The core skill requirement for critical thinking is reasoning, the mental activity that occurs when we think about and use facts we already know (Anderson, 1980). Reasoning includes such processes as inductive and deductive reasoning, hypothetico-deductive reasoning, and phenomenological reasoning (Arons, 1979). Inductive reasoning occurs when an individual comes to the formulation of a rule or generalization after examining a range of data or examples (Mayer, 1977; Anderson, 1980). When an adult educator makes an assessment of a learning need based on a number of observations, s/he is thinking inductively -- as in the needs assessment project of this study.

There are presently three thrusts in the recent literature which provide further clarification of critical thinking. MacMillan (1987) summarizes these positions and their key supporters:

> 1. Critical thinking is reflective and reasonable thinking that is focused on deciding what to believe or do. It includes a set of thirteen dispositions and twelve skills according to Ennis (1985).
>
> 2. Critical thinking involves the recognition of assumptions and values, evaluating arguments and

> evidence, drawing inferences and altering judgments when justified based on logical inquiry and reasoning, and having the "appropriate attitude of being disposed to consider problems in a thoughtful, perceptive manner" (Glaser, 1985).
>
> 3. There are levels of critical thought: i) a micro-logical level which includes analytic reasoning skills, and ii) dialectical reasoning where a range of perspectives give a holistic rationality (Paul, 1984).

Reasoning becomes critical when combined with a questioning attitude and informed by awareness of possible alternatives.

Some experts refine critical thinking further and suggest that reasoning skills, such as recognizing assumptions and deduction, provide the base for higher levels of reflective judgment (MacMillan, 1987). Said another way, reflective thinking is at the apex of a hierarchy of critical thinking skills. Dialectical thought is explained elsewhere as representing the ultimate goal of being able to consider and reflect on a situation from a range of possibly opposing perspectives (Basseches, 1984).

Schon (1988b) noted that the trigger for reflective thinking is frequently the element of surprise -- something unfamiliar in our usual patterns of behaviour or knowledge. We may respond to the surprise by reflection in one of two ways:

> We may reflect *on* action, thinking back on what we have done in order to discover how our knowledge-in-action may have contributed to an unexpected outcome. We may do so after the fact, in tranquillity, or we may pause in the midst of action to make what Hannah Arendt (1971) calls a "stop-and-think." In either case, our reflection has no direct connection to present action.

> Alternatively, we may reflect in the midst of action without interrupting it. In an *action-present* -- a period of time variable with the context, during which we can still make a difference to the situation at hand -- our thinking serves to reshape what we are doing while we are doing it. I shall say, in cases like this we reflect-*in*-action. (p. 26)

Max van Manen (1990) suggested that critical reflection of educational phenomena can be approached through writing; he terms this textual reflection. The purpose of this reflection according to van Manen (1990) "is to grasp the essential meaning of something" (p. 77). The writing process involves reflecting, clarifying and making explicit the structure of meaning of the experience being researched.

Van Manen (1990) noted that for most traditional research, writing is conceived largely as a reporting process. He argued that such reportage may limit the quality of the insights generated. For van Manen (1990), "writing is closely fused into the research activity and reflection itself" (p. 125). "Hermeneutic phenomenological writing" seeks a non-traditional perspective: "The object of human science research is essentially a linguistic project: to make some aspect of our lived world, of our lived experience, reflectively understandable and intelligible" (p. 126). For van Manen (1990), reflection through writing produced the essential understanding required of qualitative research.

A pragmatic approach to reflection in research was presented by Bogdan and Biklen (1993). Although they were making specific reference to "the reflective part of fieldnotes" (p. 86), their categorization aptly fits into a broader context of qualitative research. They described the rationale for reflectivity:

> Because a researcher is so central to the collection of the data and its analysis, and because neither instruments nor machines nor carefully codified procedures exist, the qualitative researcher must be extremely self-conscious about his or her relationship to the setting and about the evolution of the design and analysis. In order to do a good study, the researcher must be self-reflective, and keep an accurate record of methods, procedures, and evolving analysis. It is difficult to get the right balance between reflective and descriptive material. Some researchers go overboard on the reflective side to write their autobiographies. It is important to remember that the reflections are a means to a better study, not an end in themselves. (p. 87)

Bogdan and Biklen's (1993) categorization of reflection in research used in this study consisted of five elements:

1. Reflections on analysis. The researcher speculates about what learning has occurred, themes that emerged, patterns that may have be noted, connections made between pieces of data, and in the process the addition of ideas that may have occurred.

2. Reflections on method. Comments are made about procedures and strategies employed in the study, decisions that were made about the study's design. "It is also the place to include comments on your rapport with particular subjects along with the joys and problems encountered in the

study" (p. 87). Reflections on method could include an assessment of what has been accomplished and what has yet to be done. At the end of the research experience, methodological discussions will enable the researcher to write an account of what was done.

3. Reflections on ethical dilemmas and conflicts. Discussion should occur regarding relational concerns between the researcher's own values and responsibilities to the subjects as well as to the profession.

4. Reflections on the observer's frame of mind. "Like everyone else, qualitative researchers have opinions, beliefs, attitudes, and prejudices, and they try to reveal these by reflecting on their own way of thinking..." (p. 88). Recognition of the assumptions/expectations the researcher held, can upon reflection, lead to new understanding.

5. Points of clarification. The researcher can make notes that are simply asides or that point out or clarify something that might have been confusing.

Bogdan and Biklen's (1993) concluding comments about the value of reflection, while referring specifically to fieldnotes, have a broader application:

> In no other form of research is the process of doing the study, and the people doing it, so consciously considered and studied as part of the project. The reflective part of fieldnotes is one way of attempting to acknowledge and control observer's effect. The reflective part of fieldnotes insists that research, like all human behaviour, is a subjective process. (p. 89)

Summary

Training needs assessment is a technique used by human resource developers to determine the training needed to enhance job performance. The literature indicated that workplace learning could be viewed from the context of continuing education. Needs assessment should reflect changes within the field of continuing education and business. Calls for interpersonal approaches to human resource development should be matched by approaches to needs assessment which likewise encompass the learners' perspectives.

A number of authors categorized managerial activities or competencies. Other authors have recommended conceptual approaches to the needs assessment process. Geroy's (1989) single Organization Assessment Model and Nadler's (1982) Critical Events Model were presented and a synthesized conceptual framework developed.

Reflection was seen to be part of qualitative research. A number of writers placed reflection within methodological approaches best categorized as action research. Bogdan and Biklen's (1993) approach to reflection provided a useful structure in undertaking reflective research.

The concept of "critical" thinking was reviewed. Critiques of needs assessment found that needs assessment have been primarily influenced by mechanistic-behavioral approaches to learning and learners which over-simplify and quantify data, and in the process, deny the richness of human experience.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Introduction

This study incorporated both quantitative and qualitative methodologies to address the research questions. It was a descriptive and reflective study.

According to Miles and Huberman (1984, p.20), it is preferable to blend quantitative and qualitative research methodologies. The quantitative component of the this study includes descriptive data. The qualitative findings derive from critical reflection about the project.

An important consideration of the study was to achieve multidimensionality of perspective on the same questions. Zemke and Kramlinger (1982) recommended a multiple dimension approach as well as using multiple information-gathering techniques. This multiple perspective was attained by asking the same questions of senior management, line managers, as well as the middle managers. Such an approach also facilitated triangulation. LeCompte and Goetz (1982) indicated that "Triangulating many data sources formalizes the meanings which participants attribute to phenomena" (p. 53). The principle of multiple information-gathering techniques was also addressed by using group sessions, semi-structured individual interviews, focus groups, and a questionnaire.

Research Procedures

This chapter details the research procedures used to answer the four quantitative/empirical research questions of the study, followed by a section covering validity and reliability issues. Ethical considerations are next presented. The chapter then concludes with an outline of the research methodology used to answer the fifth research question which is qualitative in nature and required critical reflection on the needs assessment process.

The research procedures related to the quantitative/ empirical research questions of this study are schematically presented along the vertical axis in Figure #2. The data sources (senior managers, line managers, middle managers, and corporate documents) are placed along the horizontal axis. Within the grid, the research procedures utilized for each research question are related to the data sources. The research procedures were: 1) semi-structured interviews, 2) large group sessions, 3) focus groups, 4) questionnaire, and 5) analysis of documents.

The first research question was: What are the generic management activities of middle managers in the organization under study? This question was asked of senior managers in interviews, and of line managers and middle managers in large group sessions. Organization documents revealed information about middle managers' activities. A focus group helped refine the data from the other sources.

RESEARCH QUESTIONS	DATA SOURCES			
	Senior Managers	Line Managers	Mid-Managers	Documents
Generic Activities	Interview	Large Group	Large Group Focus Group	Analysis
Training Needed	Questionnaire		Focus Group Questionnaire	Analysis
Format	Interview	Large Group	Large Group Focus Group Questionnaire	Analysis
Organizational Elements		Large Group	Large Group Focus Group Questionnaire	Analysis

Figure #2 : Research Procedures

The second research question inquired: Given a list of generic management activities, what are the training needs of middle managers? A questionnaire developed from the job statement of generic management activities was the chief mechanism used to answer this question. The focus group suggested modifications to the questionnaire. Documents were reviewed to determine what statements had been made about middle managers' training and development needs.

What are the preferred formats for meeting training and development of middle managers was the third research question. Senior managers, line managers, and middle managers were all asked this question in a variety of ways. The documents were reviewed to ascertain existing policies addressing how middle managers gain access to training and development opportunities.

The fourth research question asked: What elements in the organizational environment are likely to influence the training and development needs of middle managers? This question was answered in three ways: 1) line managers, middle managers and senior managers were all asked what changes in the next three to five years would affect the job of middle managers? 2) open-ended questions were used to identify factors hindering or helping middle managers meet their training needs; and 3) document analysis was undertaken to reveal training and development policies and procedures.

Interviews

The project team (the researcher, two management development consultants, and the training director) considered how best to achieve a "top-down" view of middle management training and development needs. It seemed to be extremely difficult to schedule a time when all 25 senior managers could attend a single data gathering session. The project was relatively minor when considered against the entire operations of the corporation and did not warrant the simultaneous attention of senior managers. We felt that a short, semi-structured interview with a sample of individual senior managers would be more acceptable.

Selection criteria for senior managers developed by the project team included: 1) interviewees were judged by the management development consultants to be strongly interested in human resource development; 2) they were responsible for large functional areas of the corporation and/or had held a variety of administrative posts; and 3) they were available to be interviewed within the time period allocated for the interviews. Using these criteria seven senior managers were interviewed. Six were level III managers and the seventh was a vice-president.

Gay (1992) remarked, "An interview is essentially the oral, in-person, administration of a questionnaire to each member of a sample" (p. 231). Gay (1992) recommended construction of an interview guide. An interview guide was developed using questions paralleling those of the large group sessions and the questionnaire (see Appendix A).

Gay (1992) also advised that rapport be established with the interviewee and that the purpose of the study be made explicit. He also noted that strict confidentiality of responses be assured to the interviewee. Pretesting (pilot-testing) of the interview guide was not done in consideration of the interactive nature of the interviews, and because interviews were only one of multiple data sources, rather than the primary research method.

Individual semi-structured interviews were conducted for the following reasons:

1. Most senior managers have had experience as middle managers in the organization.
2. It was convenient to schedule individual interviews.
3. Given the position of senior managers in the organization, they were able to provide informed opinions concerning the corporate environment, the role of middle managers, and training and development plans. As Sleezer (1993) noted, "A company's major decision makers can affect a needs analysis by their expectations, the amount of support for training they offer, and the degree of consensus among them" (p. 52).

Each interview followed the same format. Initial remarks by the interviewer reviewed the purpose of the interview, the nature of the study, and ethical guidelines applying to the interview.

The interview guide consisted of three questions:

1. What are the generic management activities of middle managers?
2. What changes over the next three to five years will affect middle managers' jobs?
3. In what ways can the training and development needs of middle managers be met?

Notes were taken during each interview. The collected materials were analyzed following each interview for recurring themes and statements.

Large group sessions

In addition to interviews with selected senior managers, sixty-eight of the cohort of 72 middle managers in the organization were invited to large group sessions (Four were unavailable at the time of the study). Approximately one month prior to the sessions, a company newsletter had featured a description of the needs assessment project which indicated that all middle managers would be invited to sessions. Two weeks prior to the scheduled group sessions, all level II middle managers received a written message, signed by a vice-president, requesting their attendance at the sessions. The written message also stressed the intent to achieve wide participation in the process and that findings of the needs assessment would influence decisions regarding training and development for managers throughout the company. Within a week of the scheduled sessions, electronic mail messages were transmitted to all middle managers giving precise times and location where the sessions were to be held and asking for return electronic mail or voice mail confirmation of attendance.

To comfortably deal with the number of participants, four sessions, each of four hours duration, were scheduled over two days. Participants were able to choose a time that was convenient to them. Twenty-seven of the 72 middle managers attended sessions. Although this was a relatively low response rate (37.5%), the data collected were considered to be representative of the population, given that 13 of the 15 functional divisions of the corporation were present within the group of 27 respondents.

Two similar large group sessions were held with a sample of level I line managers. There were approximately 250 level I managers employed in the corporation. Of this population, a sample of 50 were invited to two sessions. Invitation was by telephone contact, voice-mail, or electronic-mail. Selection of the sample occurred naturalistically. The management development consultants (members of the project team) identified level I managers whom they thought would be able to provide helpful input to the needs assessment process and who had considerable experience in the organization. Of the 50 level I managers invited, 24 attended the sessions designated for them.

The purpose of the large group sessions with a sample of line managers was to achieve a bottom-up perspective of the job of middle managers. Middle managers oversee the work of line managers and, therefore, their perceptions of their bosses was seen to compliment the top-down view provided by the interviews with senior managers, bosses of middle managers.

Each large group session had three phases. The first phase employed a modified nominal group technique to generate data for the first research question of the study: "What are the generic management activities of middle managers?" In the second phase, the session broke into small groups of three to five participants, each to generate replies to the question, "What changes in the next three to five years will affect middle managers' jobs?" In the third phase, respondents discussed the question, "In what ways can the training and development needs of middle managers be met?" The three phases of the large group sessions are discussed in the following sections.

<u>Large group session - Phase 1: Nominal group technique</u>

Scott and Deadrick (1982) concluded their article about the application of the nominal group technique for training needs assessment with these remarks:

> When considering this process, a trainer should devote attention to the group formation, the range and relevance of nominal questions and the solicitation of feedback. With these factors in

> mind, the NGT will improve the training needs analysis by increasing synergy among participants and actively involving employees in both analysis and goal setting. The increased cohesion of the group results in a greater motivation to achieve the goals of a training program. (p. 33)

The setting for the large group sessions was a large hall within the corporation's training centre. Tables with four to six chairs at each were arranged at one end of this hall within easy view of the whiteboards. Refreshments were made available. The session commenced by the project team introducing themselves and providing an overview of the purpose of the project. Participants then were asked to introduce themselves.

Prior to commencement of the session the team had written on the whiteboard the first question to be addressed: What are the generic management activities of middle managers? This question was covered over by a projection screen so that it would not distract participants during the introductory remarks.

Scott and Deadrick (1982) defined the nominal group technique (NGT) in this way:

> The NGT is a structured group meeting conducted by a group leader or facilitator. Five to nine individuals sit around a table in full view of one another, but initially no talking takes place. Each individual has a sheet of paper with the 'nominal question' at the top and then independently and silently, writes down as many answers to the question as possible. (p. 27)

The large group sessions modified the NGT by: 1) writing the nominal question on the whiteboard rather than at the top of papers at each table, 2) a larger number of participants than that suggested by Scott and Deadrick (1982) was involved, and 3) participants wrote their responses on adhesive-backed note papers which were collected by project team members and posted in random order on whiteboards at the front of the room. Since the large group sessions were primarily data-collection sessions, these modifications were deemed appropriate. (Scott and Deadrick, 1982, noted that the NGT is frequently used to identify elements of a problem situation -- as was the case here -- but moves on to identifying elements of a solution, establishing priorities, and arriving at a group decision -- which was not the case here.)

Participants were advised by the researcher or one of the management development consultants acting in the role of facilitator, that this was a silent process, and that they were not to interact with each other during this stage. The generation of answers to the nominal question took approximately 45 minutes.

When all responses had been posted, participants were instructed by the facilitator to come to the whiteboards and silently and independently read/scan all the posted descriptions. They were then asked to place similar descriptions together on the whiteboards. The facilitator instructed participants to cluster notes that seemed to have similar descriptors; identical descriptors were placed one on top of the other. Again, this was a silent process. The task was easily accomplished, as it was easy to remove and relocate the adhesive-backed notes. Participants could move or rearrange notes at will. The process continued until everyone was satisfied with the arrangement of the notes.

Once similar descriptions were arranged in clusters, participants were asked to devise a label which categorized each grouping. They worked independently, and could change or modify the labels. Using coloured pens, participants wrote suggested labels for the clustered descriptors on the whiteboards above the clusters of adhesive-backed notes. This work was also done in silence.

When each grouping was labelled, and the participants agreed with the label, each item in the grouping was read aloud by the facilitator to ensure that there was consensus for the items in that category. This lead to discussion among group members about the categories and clarification of what the categories included.

The large group sessions generated data from all participants. The descriptive items were generated in silence which reduced the influence of one member upon another. The process of categorizing the items used the perspectives of the entire group, thus assuring a greater degree of validity than if a single person categorized the data. Use of large group sessions seemed highly relevant to the collaborative approach of this study. The data collected responded to the first research question of this study. The complete collection of descriptive items was retained by category. Later, the data were recorded for analysis.

Large group session - Phase 2: Group discussion

Bogdan and Biklen (1993) noted that "Group interviews can be useful to bring the researcher into the world of the subjects" (p. 138). They also stated that group interviews were helpful in providing a cue to the language that the subjects share. Additionally they commented, "When reflecting together on some topic, subjects can often stimulate each other to talk about topics that you can explore later" (p. 138). Although the group interviews were intended primarily as a survey method to collect data related to the specified interview question, it seemed that group interviews did provide important clues about the subjects as well as providing a relatively expeditious method of data collection.

The second phase of the large group session used group discussion to generate replies to the question, "What changes in the next three to five years will affect middle managers' jobs?" Answers to this question provided information about the organizational context. Participants were asked to form small groups of three to five at the tables in the room and to record their responses on flip-chart paper provided. When the groups finished recording their discussions, they reported the results to the large group. The data on the flip charts were retained and later recorded for analysis. Analysis was achieved through theme and content analysis of the responses recorded on the flip charts.

Large group sessions - Phase 3: Large group discussion

Like the small groups, the large group discussions were used to stimulate participants' collective thinking regarding the question, "In what ways can the training and development needs of middle managers be met?" Responses generated in this brainstorming session were recorded on a flip chart by one of the project team members and later transcribed for analysis.

The large group sessions used a data generation process that moved from the individual, to small groups, to the large group. This process was chosen to build the level of interactivity, thus increasing the likelihood of participation in group processes. It was anticipated that increased participation would reinforce the collaborative dimensions of the project.

Focus Group

The use of a focus group in this project served two main purposes. First, the focus group acted as a validity check on the materials produced from the large group sessions. Second, the focus group provided advice and opinions concerning the construction of the survey questionnaire, and later acted as a pilot-test group for the questionnaire.

Krueger (1988) wrote:

> A focus group can be defined as a carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment. It is conducted with approximately seven to ten people by a skilled interviewer. The discussion is relaxed, comfortable, and often enjoyable for participants as they share their ideas and perceptions. Group members influence each other by responding to ideas and comments in the discussion. (p. 18)

The focus group consisted of seven middle managers who had attended large group sessions and who had volunteered to participate in focus group sessions. At the end of the large group sessions with middle managers, as part of closing remarks and thanking participants for their time and input, the facilitator had asked for volunteers to devote additional time to participate in focus group meetings. Focus groups had been described as helping to refine the questionnaire and provide advice to the project team.

Regarding sampling procedures for a focus group, Krueger (1988) wrote:

> The driving force in participant selection is the purpose of the study. Once again, researchers must focus on why the study is being conducted and about whom statements will be made. While the purpose dictates the nature of the selection, the process is also tempered by practical concerns and the credibility of the study. (p. 97)

Although selection of the focus group relied on volunteers from the middle managers who had attended the large group sessions, the researcher in conjunction with management development consultants used the following criteria to determine membership in the focus group sessions recommended by Korhonen (1987): 1) experience in job; 2) articulate but not argumentative; 3) hard workers; and 4) able to be released for short periods. Seven persons had volunteered to participate in the focus group, and in the estimation of the project team, they all met the selection criteria.

Kreuger (1988) clearly outlined the use of focus groups with quantitative measures, particularly needs assessments:

> Questionnaires typically yield a sizeable amount of data, and focused interviews can provide insights about the meaning and interpretation of the results. In addition, the follow-up focus groups can suggest action strategies for problems addressed in the questionnaire. Focus groups have been particularly helpful when used after quantitative needs assessment surveys. Needs assessment surveys can be vexing to researchers because quantitative procedures alone are often incomplete. (p. 40)

Since training and development needs of middle managers was the focus of this study, it was important that middle managers' interest and involvement was captured as much as possible. A focus group that represented the larger body of middle managers fulfilled these functions:

1. Helped refine and validate the collected data from the large group sessions. These data were in the form of a)

a job statement listing the generic management activities of middle managers, b) a list of the important changes in middle managers' jobs, and c) a list of ways in which training and development needs of middle managers might be met.

2. Informed other middle managers in the organization about the nature and purpose of the needs assessment, thereby increasing the ownership of the process by all incumbents. This was achieved by encouraging focus group members to discuss the project and their involvement with their middle manager colleagues throughout the corporation. It was expected that this communication would be informal and in situ.

3. Provided advice and suggestions to the researcher on tactics to increase middle managers' level of response to the survey questionnaire. Again, this was used to increase a sense of ownership of the project by middle managers.

4. Acted as respondents for a pilot [illegible] of the questionnaire. Changes suggested by the focus group were recorded and later incorporated into revised instruments and procedures.

The focus group met on two separate occasions set by using voice mail or electronic mail contact. At the first session a draft questionnaire prepared by the researcher was presented (see Appendix C for questionnaire). Discussion occurred around design issues, and around the list of categories in the job statement. Content analyses of the data from small group and brainstorming phases of the large group sessions were presented.

The second meeting of the focus group was used primarily to pilot-test the questionnaire. The meeting also elicited suggestions regarding the administration of the questionnaire that would achieve a high response rate. The group approved the draft letter of transmittal accompanying the questionnaire to middle managers.

Krueger (1988) recommended between two and four sessions be held with a focus group. Only two were held in this instance, which seemed in line with his comment that, "The topic of the focus group interview might relate to a narrow category of people with similar backgrounds who have had the same level of exposure to the program. Consequently, fewer focus groups would be needed" (p. 98).

Document analysis

Organization documents were surveyed to provide background information about the organizational context and to act as a validity check of questionnaire results. Bogdan and Biklen (1993) commented that "Internal documents can reveal information about the official chain of command, and internal rules and regulations. They can provide clues about leadership style and potential insights about what organizational members value" (p. 101).

Documents surveyed for information pertaining to organizational context included:

1. Corporate Management Training Plan (1991);

2. Corporate Strategic Plan (1992);

3. Employee Attitude Survey Report [middle management section, only] (1993); and

4. Training and Development Programs For Fall 1992 and Spring 1993 Catalogue (1993).

A section of the Employee Performance Rating document addressed training needs of employees as perceived by their supervisors (directors). The employee performance ratings of middle managers were surveyed. The results were then used to validate the results of the questionnaire completed by middle managers themselves. In other words, the level of congruence between what supervisors reported as middle managers' training needs and what middle managers reported themselves was determined.

Questionnaire

Zemke and Kramlinger (1982) and Borg and Gall (1989) recommended that questionnaires be kept as short as possible. This foundational principle undergirded the design of the needs assessment questionnaire developed for this study.

Spruell (1986, p.3) listed some of the advantages to using written questionnaires as a survey instrument. Since the questions were administered uniform (in written form) to the respondents, the responses were unaffected by any bias that the interviewer might possess. The responses to the questionnaire were more readily recorded and analyzed than those obtained by other methods such as interview or focus group. The written questionnaire was the least time consuming to the researcher; thus facilitating sampling of larger groups. From the point of view of the respondent, the questionnaire was the simplest of the techniques, assuring greater accuracy of responses. As well, the atmosphere in which the respondents completed the written questionnaire contained less tension.

Three references were consulted to inform the process used in designing, delivering, and analyzing results of a survey questionnaire. Borg and Gall (1989) and Gay (1992) were used as standard educational research references. Nowack (1991) was used because he detailed a questionnaire specifically developed for a management development needs assessment. Figure #3 presents the major steps proposed for the development of a survey questionnaire by these authorities.

The steps outlined by Borg and Gall (1989) and Gay (1991) were very similar to each other. Nowack (1991) began from the assumption that the target population had been predetermined by the decision to conduct a needs analysis.

BORG & GALL (1989)	GAY (1992)	NOWACK (1991)
Defining objectives	Statement of problem	Conducting job profile
Selecting a sample	Selection of subjects	
Writing items	Construction of questionnaire	Developing questionnaire
Constructing questionnaire		
	Validation of questionnaire	
Pretesting		
Preparation of letter of transmittal	Preparation of cover letter	
Sending out questionnaire		Administering questionnaire
	Pretesting questionnaire	
Follow-up	Follow-up activities	
	Dealing with non-response	
Analysis of results	Analysis of results	Interpreting the results
		Small focus groups

Figure #3 : Comparison of Three Processes in Questionnaire Construction

Nonetheless, it appeared that conducting the job profile wassimilar to Borg and Gall's (1989) and Gay's (1991) first two steps.

Once the target audience had been selected, all three references suggested construction of the questionnaire. Gay (1991) included validation as the next step in questionnaire development:

> A too-often-neglected procedure is validation of the questionnaire in order to determine if it measures what it was developed to measure. Validation is probably not done more often because it is not easy and requires much additional time and effort....The appropriate validation procedure for a given questionnaire will depend upon the nature of the instrument. (Gay, 1991, p. 226)

Validation of the questionnaire used in this study is outlined in the reliability and validity section of this chapter.

Borg and Gall (1989) recommended pretesting the questionnaire, whereas Gay (1991) recommended that pretesting could occur after the cover letter was prepared. The advantage of pretesting after the development of the cover letter was to include the cover letter in the pretesting. A modified copy of the letter of transmittal (cover letter) appears in Appendix B. It was necessary to disguise the actual letter of transmittal to eliminate identifying references.

Borg and Gall (1989) and Nowack (1991) specified a step of sending out/administering the questionnaire, whereas Gay (1991), it seemed, made the assumption that this would occur.

Borg and Gall (1989) and Gay (1991) also recommended a follow-up step. Follow-up was intended to maximize the rate of response to the questionnaire. Gay (1991) wrote:

> If your questionnaire is well constructed, and your cover letter well written, you should get at least an adequate response rate. Research suggests that first mailings will typically result in close to a 50% return rate, and a second mailing will increase the percentage by about 20%; mailings beyond a second are generally not cost-effective, in that they increase the percentage by about 10%. After a second mailing, it is usually better to use other approaches until an acceptable percentage of returns is achieved. (p. 230)

Gay (1991) included a step which might be described as an "insurance" step -- dealing with nonresponse. He outlined tactics which might be considered in the event that the response rate to the questionnaire remained unacceptable (below 60%) after the follow-up. "The usual approach to dealing with excessive nonresponse is to determine if nonresponders are different in some systematic way by randomly selecting a small subsample of nonresponders and interviewing them, either in person or by phone" (Gay, 1991, p. 230). There was no need to deal with nonrespondents in this study as the response rate was quite acceptable (77.9%).

The three authorities cited concluded with the analysis of results, however, Nowack (1991) also recommended the use of small focus groups to facilitate the interpretation of results for the organization, and particularly for the subjects of the needs assessment questionnaire. Data analyses are discussed later in this chapter.

A copy of the needs assessment questionnaire used in this study can be found in Appendix C. The actual questionnaire included the name of the corporation on the title, however, in order to maintain anonymity, the copy in Appendix C has the name removed.

The questionnaire was contained on the front and back sides of a single page. The first side surveyed the training and development needs of middle managers through self-report of their generic management activities on two dimensions -- importance of each activity to their job and their proficiency in each activity. These were the same dimensions Nowack (1991) used in a management training needs questionnaire to arrive at a quantitative measure of training needs.

The items rated by respondents were the generic management activities generated by the interviews and the large group sessions, and later refined by the focus group.

The questionnaire included a category termed "Other Generic Management Activities" which permitted respondents to list other important generic management activities not identified in the questionnaire. Respondents were requested to rate these other activities using the same scales specified in the rest of the questionnaire. Inclusion of an "other" category was done at the suggestion of the focus group.

Venable (1988) suggested use of a Likert-like scale having an even number of choices, either 4 or 6, as this reduced the incidence of central tendency in responses. Management training staff in the corporation had expressed concern regarding central tendency in responses, based on previous experiences with survey instruments. This questionnaire applied a 6-point Likert scale ranging from 0 to 5. Each end of the scale offered an explanatory definition of what quality the scale measured; for example, from not at all important (0), to very important (5).

Nowack (1991) used a Likert-like scale from 1 to 5, which needed to be modified in order to overcome the management training staff's concerns about central tendency. Other modifications to Nowack's format were required because respondents were required to "switch" their thinking for each category they rated because Nowack's (1991) scales for importance ranged from "not at all important" (1) to "very important" (5) whereas The scales for proficiency were arranged in the opposite direction, from "a great deal" (1) to "none at all (5). The Likert scales used in this questionnaire ranged from 0 to 5 for both importance and proficiency, but changed the proficiency scale to range from "none at all" (0) to "expert" (5). This overcame the "switching" problem.

One descriptor on the proficiency scale was changed as a result of the focus group pilot testing the draft questionnaire. It was discovered that Nowack's (1991) descriptor "a great deal" was too open to interpretation by the respondents. Some focus group members had interpreted a rating of 5 on the proficiency scale to mean "qualified for the job" while others felt that a rating of 5 meant that the respondent was an "expert" in that category. Consensus among the focus group was that the descriptor should be changed to "expert" for the top-end (5) of the scale.

Advice of the focus group and management training staff was used to determine the nature of a limited number of open-ended questions. These questions formed the second side of the questionnaire sheet.

The first open-ended question surveyed respondents' preferred formats for learning in the workplace. This question was directly related to research question #3 -- preferred formats for learning. The first open-ended question was, "Training and Development needs may be met through a variety of methods: in-house courses, institutes, credit offerings, job rotations, study groups, certificate/ degree programs, mentors, etc. Please indicate up to three of your most preferred ways to meet your generic management training and development needs."

The focus group and the project team concluded that it was necessary to give some indication of a variety of training and development formats available to middle managers. Consequently, a number of these formats were listed in the first open-ended question.

Management development consultants on the project team wanted to survey the middle managers to determine their technical or area-specific training and development needs. The second open-ended question was devoted to collecting information on this topic which was of interest to the corporation, but was not specifically related to generic management training and development needs central to this study. *Quid pro quo!*

The third and fourth open-ended questions were devoted to collecting middle managers' perceptions of factors either hindering or helping them in meeting their training and development needs. These questions related to research question #4 -- organizational elements.

The survey questionnaire was also administered to senior managers in the corporation that had level II (middle) managers reporting to them. By this process, data were collected regarding the senior managers' perceptions of the middle managers' generic management activities.

The questionnaire administered to senior managers did not include open-ended questions. Senior managers had been previously sampled by means of individual interviews to gather information concerning organizational factors influencing middle managers attaining their training and development needs. Further, the open-ended questions asked about preferred training and development delivery methods and technical and area-specific needs, and middle managers themselves were considered better able to respond to these questions than were their supervisors.

The questionnaires were delivered and collected individually from the senior manager respondents. This may have accounted for the high return rate of 16 out of the 18 distributed questionnaires.

Instrument Validity and Reliability

Validity

Borg, Gall, and Gall (1993) defined validity of an instrument as, "the extent to which it lives up to the claims that the researcher has made for it" (p. 120). They pointed out that different types of claims are appropriate for different types of measurement situations. Borg, Gall, and Gall (1993) discussed five major categories of validity: content validity, predictive validity, concurrent validity, construct validity and face validity. Predictive validity was not appropriate here, given the descriptive nature of the questionnaire.

1. Content validity. "A test has content validity to the extent that its items represent the content that the test is designated to measure" (Borg, Gall, and Gall, 1993, p. 120). A content analysis was completed using four

separate management development assessment instruments: 1) City of Edmonton Managers Development Form. 2) Northern Telecom Development Plan Worksheet, 3) MPG Development Discussion Plan, and 4) AT&T Job Studies. The content items for each of the four instruments were compared with the items of this study questionnaire. Figure #4 lists the generic management skills of each instrument and compares the categories to those in this questionnaire. The content analysis revealed that there was a high degree of comparability between the management skills categories in this questionnaire and those of the four other forms analyzed. Content validity was thus established for the survey questionnaire.

2. Concurrent validity. "A test has concurrent validity if it can be shown that individuals' scores on the test correlate with their scores on another test administered at the same time or within a short interval of time" (Borg, Gall, and Gall, 1993, p. 122). Concurrent validity was not strictly established, however, in a broader sense it was established by comparison of questionnaire categories with the training and development section of the employee performance appraisal documents available on middle managers. These performance appraisals were routinely completed by senior managers on the middle managers they supervised. A comparison between the data on the employee performance forms and those of this needs analysis broadly

COMPARISON OF FOUR MANAGEMENT ASSESSMENT ITEMS LISTS AND THE MID-MANAGEMENT CATEGORIES LIST

City of Edmonton	Mid-Management
1. Interpersonal Skills	Communication
2. Stability of Performance	Staff Management
3. Administrative Skills	Administration
4. Work Motivation	Leadership
5. Problem Solving	Problem Solving
6. Effective Meetings	Communication
7. Managing Change	Change Management
8. Financial Management	Financial Management
9. Labour Relations	Staff Management
10. M.B.O.	Staff Management
11. Negotiating	Communication
12. Career Counselling Staff	Staff Management
13. Motivating Others	Leadership
14. Providing Feedback	Communication
15. Delegation	Leadership
16. Controlling the Work	Administration
17. Interviewing	Staff Management
18. Conflict Resolution	Problem Solving
19. Staff Training & Developmt.	Staff Development
20. Coaching Subordinates	Staff Development
	Customer Service
	Planning
	Quality Improvement

Development Discussion Plan	Mid-Management
1. Managing Work	Planning Administration
2. Communicating and Influencing	Communication Leadership
3. Learning and Adapting	Change Management Staff Development
4. Maximizing Resources	Problem Solving Staff Management Financial Management Planning
5. Quality and Customer Focus	Quality Improvement Customer Service
6. Managing Associates	Staff Management Staff Development

Table 3.1 Management Skills List Comparison

TABLE 3.1 (Cont'd)

Northern Telecom	Mid-Management
LEADERSHIP COMPETENCIES	
1. Business and Organizational	Administration/Fin.Mgmt.
2. Thinking and Analytical	Administration
3. Innovation/Change/Risk Taking	Change Mgmt./Prob.Solving
4. Teamwork	Leadership
5. Leadership	Leadership
6. Customer Orientation	Customer Service
7. Interpersonal Skills	Communication
8. Personal Characteristics	Staff Management
PEOPLE MANAGEMENT STANDARDS	
9. Accessibility	Leadership/Change Mgmt.
10. Accountability	Leadership
11. Integrity	
12. Decision Making	Problem Solving
13. Executing Plans	Planning
14. Internal Communications	Communications
15. Managing Skills	Staff Management
	Quality Improvement
	Staff Development

AT&T Job Studies	Mid-Management
Planning the Work	Planning
Controlling the Work	Administration
Problem Solving	Problem Solving
Providing Performance Feedback	Staff Management
Coaching Subordinates	Staff Development
Creating/Maintaining a Motivative Atmosphere	Leadership
Communication	Communication
Informal Oral Communication	Communication
Conducting/attending Meetings	Communication
Written Communication and Documentation	Communication
Career Counselling Subordinates	Staff Development
Self-development	Staff Development
Representing the Company	
Managing Time	Administration
	Quality Improvement
	Customer Service
	Change & Fin. Mgmt.

Table 3.1 Management Skills List Comparison (Con'd)

supported the concurrent validity of the needs assessment instrumentation. The comparison tended to break down because the employee performance appraisals of training and development needs rarely identified management skill development needs in as precise terms as used on this questionnaire. However, broad categories of need such as "financial management," "quality improvement," and "communication" emerged from the employee forms. It was also noted that the employee performance forms focused on area-specific skill development needs to a greater extent than on generic or even "people-management" skills.

3. Construct validity. "A test has construct validity to the extent that it can be shown to measure a particular hypothetical construct. Psychological concepts such as intelligence, anxiety, and creativity are considered hypothetical constructs because they are not directly observable but rather are inferred on the basis of their observable effects on behaviour" (Borg, Gall, and Gall, 1993, p. 122). In light of this definition, need was a hypothetical construct. Training and development need of a specified generic management activity was determined by self-assessment of the importance of the activity to the job and related to self-assessment of proficiency on the job. This was the hypothesis made by Nowack (1991). Unfortunately, he did not report validation of the instrument.

A "skills rating" instrument had been developed and used by the corporation in 1991. The instrument assessed 15 management skills categories of middle managers by having their supervisors rate them on each category for "relative importance that each skill holds in the employee's current position" and "relative performance of the employee in relation to each of the defined skills." Thus, the corporation used constructs similar to those in this survey questionnaire to determine skills ratings of middle managers as perceived by their superiors.

Nowack's (1991) instrument assessed need by having respondents self-report their current proficiency on specified management activities. This appeared to be conceptually aligned with the definition of need which Kaufman and English (1972), Lee and Roadman (1991), Mager (1992), and others consistently reported as the gap between an individual's current performance and the ideal level of performance.

To proficiency Nowack (1991) added the dimension of importance. "Importance is defined as the relevance of specific tasks and behaviours in a particular job and the frequency with which they're performed.... It is important to keep in mind that employees may be proficient in job skills that are not important" (p. 69). The importance dimension was added to "differentiate between training wants and true training needs" (Nowack, 1991, p. 69). A similar differentiation in need was expressed by Lee and Roadman (1991) who defined a felt need as what employees think they need to solve a problem. Even though Nowack's instrument relies on self-report, the addition of the importance dimension moved the assessment beyond felt need.

Macdonald (1982) noted that the AT&T Supervisory Job Studies had as their major objective "that studies be made of supervisory job requirements, and that deficiencies in supervisory performance be identified for training or other remedial action" (p. 15). Macdonald further wrote that "A secondary benefit was to focus the job study on the most critical features of the second-level supervisor's job" (p. 17). The AT&T studies required a rank ordering of the listed duties of the supervisory job. Thus, the Macdonald (1982) study, like Nowack's (1991) model, and this study, all included the constructs of need and importance/critical features across a list of job duties.

4. Face Validity. "A test has face validity to the extent that it *appears* to measure what it purports to measure. No evidence can be collected to support a test's face validity other than to ask individuals to inspect the items and decide whether the test seems to measure what it claims to measure" (Borg, Gall, and Gall, 1993, p. 123).

Face validity for this survey instrument was established by having it previewed by the Vice-President for Human Resources in the corporation. He completed a detailed review of the items in the questionnaire and the open-ended questions and then approved the administration of the instrument to the middle managers. The researcher's advisor was also helpful in suggesting a number of design changes (as noted earlier). He concurred that the elements represented the generic management skills required of middle managers.

The third source for face validation came from the focus group. The group collectively reviewed the job categories and the descriptors for each category. The initial content analysis of the items generated by the nominal group process had produced 14 job categories. The focus group reduced this to 11. "Goals and Objectives" was included in the category of "Planning," "Process Management" became part of "Quality Improvement," and "Supervision" was included in the "Staff Management" category. To this set of 11 categories, the focus group added a further open category titled "Other Generic Management Activities."

Borg, Gall, and Gall (1993) indicated that while claims of face validity are rather shallow, instruments with high face validity are generally well received by respondents. Nevo (1985) found that instruments with high face validity are more likely to 1) bring about higher levels of cooperation and motivation while subjects are taking the test; 2) reduce feelings of dissatisfaction or injustice among low scorers; 3) help convince potential users to use the test; and 4) improve public relations, because nonexperts can more easily see the relationship between the test and the performance or characteristic it purportedly measures. These reasons for pursuing face validity coincide with the intent of the project to be collaborative in nature, seeking to increase the sense of ownership in the needs assessment process by the target individuals.

Reliability

Gay (1992) defined reliability as "The degree to which a test consistently measures whatever it measures" (p. 592). Borg and Gall (1989) wrote, "Reliability, as applied to educational measurements, may be defined as the level of internal consistency or stability of the measuring device over time" (p. 257). Borg, Gall, and Gall (1993) noted three types of test reliability: item consistency, test stability, and consistency of test administration and scoring. They also noted that "One type of reliability is typically of most concern, depending on the measure involved and the research situation" (p. 129).

Given the descriptive purpose of the survey questionnaire and its intended use within the confines of one organization, stability was less of a issue. The instrument was administered to respondents in a consistent manner -- a room was set aside for them to complete the questionnaire, and the verbal instructions were consistent.

The questionnaire was administered to senior managers as well as to the middle managers. As will be seen in the analysis of results, there were no statistical differences in response categories between the two groups. It could be hypothesized that the findings confirmed the reliability of the instrument to the extent that the responses were similar for senior managers (rating middle managers) as for the middle managers themselves.

Validity and Reliability of Qualitative Measures

Guba and Lincoln (1981), LeCompt and Goetz (1982), Borg and Gall (1989), and Bogdan and Biklen (1993), have noted that qualitative research methods require different conceptualizations of validity and reliability than those applied in quantitative research. Nonetheless, qualitative research requires that the research demonstrate rigor.

Validity of qualitative measures

Borg, Gall, and Gall (1993) proposed that the validity of qualitative measures such as interviews and observation could be checked in four ways: 1) Multiple sources of evidence, 2) A chain of evidence, 3) Review of key informants, and 4) Researchers' self-reflection.

As noted earlier, multiple sources of data were utilized in this study. For example, senior managers and line managers were asked identical questions about middle managers' generic management activities, perceived changes affecting their jobs, and how the organizational context might influence meeting of their training and development needs. The use of multiple data sources was important to the achievement of validity. It might be said that the use of multiple data sources validated the research questions.

"The chain of evidence provides a validity check by placing the qualitative research in a total context. The validity of the interview or observational measures is strengthened if all parts of the context are consistent: data collection procedures, analyzed data, and the conclusions drawn from the data" (Borg, Gall, and Gall, 1993, p. 125). In this study, the chain of evidence included data from the informants, ancillary informants, questionnaire, documents, and reflection on the process. A strong data-link was demonstrated in the use of the list of generic management activities as the basis for the questionnaire items. The focus group was another link from the initial data collection to the development of the questionnaire. There was a design weakness in not linking the data analysis more closely to the data sources (e.g., there was feedback of data results to middle managers, however, their reactions to the feedback were not sought.)

Review of key informants was achieved through the interaction with the focus group, and the frequent meetings of the project team (consisting of management development consultants and the researcher). These activities resulted in frequent process checks regarding the evolution of the project and the appropriateness of actions taken.

Self-reflection was suggested by Borg, Gall, and Gall (1993) as a way of reducing researcher bias especially with observational and interview data. The methodology relating to the development of critical reflection is presented later in this chapter.

Reliability of qualitative measures

Bogdan and Biklen (1993) observed, "In qualitative studies, researchers are concerned with the accuracy and comprehensiveness of their data. Qualitative researchers tend to view reliability as a fit between what they record as data and what actually occurs in the setting under study, rather than the literal consistency across different observations" (p. 44).

Borg, Gall, and Gall (1993) suggested that in qualitative studies measurement procedures are rarely replicated to check on their reliability. They recommended:

> In evaluating the measures used in a qualitative study, then, you should note how carefully the measurement procedures are reported. If there is no information of this type, you have good reason to suspect the reliability of the researcher's data. If information is provided you can do a 'thought experiment' in which you form a judgment about the likelihood that the procedures would lead to the type of data reported by the researcher. (p. 130)

The research procedures used in this study have been carefully noted. The collaborative aspects of the study also insured that the data collected accurately reflected the phenomena under study.

Triangulation was another approach employed in this study to assure reliability. Denzin (1970) defined triangulation in this way:

> It is conventionally assumed that triangulation is the use of multiple methods in the study of the same object....It is convenient to conceive of triangulation as involving varieties of data, investigators, and theories, as well as methodologies. (p. 301)

This study employed multiple data sources and multiple methods. The data sources were: 1) documents, and 2) organizational personnel consisting chiefly of the middle managers themselves, but also including senior managers and line managers. Additional input from the management training and development staff was also valuable. Methods used included document analysis, interviews, large group sessions, focus groups, and a survey questionnaire.

Selection of Samples

Methods used for the selection of samples have been described within the context of detailing each separate methodology employed in the study. A brief reiteration of how the selection of samples occurred in this study follows:

1. Interviews with senior managers. A sample of six of 18 senior managers were interviewed; a seventh interview was conducted with a Vice-President. The selection of these senior management personnel to be interviewed was made by the management training staff and the researcher on the basis of senior management's availability, willingness to participate, and by virtue of the positions they held. The rationale for interviewing senior managers was that they provided a top-down perspective on the job of middle manager.

2. Of the 72 middle managers of a corporation, 68 were invited to attend large group sessions and 27 attended the sessions. Despite this being a low response rate, it was fortunate that all but two of the functional divisions of the company were represented by those in attendance. This representativeness was crucial to the generalizability of the data from the large group sessions to the whole cohort of level II managers.

3. The selection of line managers invited to participate in group sessions was made on the basis of having representation from all functional divisions within the corporation, and on the basis of management consultants' judgment that these participants would likely respond positively to a request to participate. Approximately 50 line managers out of a total of 250 persons holding this job designation were invited to attend sessions. Invitation was

by telephone contact, voice-mail, or electronic-mail. Selection of the sample occurred somewhat naturalistically. Thee management development consultants (members of the project team) identified level I managers who they thought would be able to provide helpful input to the needs assessment process and who had considerable experience in the organization. Of the 50 level I managers invited, 24 attended one of the sessions designated for them. The rationale for inviting line managers to data collection sessions was that they provided a bottom-up perspective on the job of middle manager -- their supervisor.

4. Seven middle managers volunteered at the time of the large group sessions to participate in the focus group sessions. Kreuger (1988) recommended that the size of the focus group ideally should be between seven and ten persons. Criteria used to determine membership in the focus group sessions followed those utilized by Korhonen (1987): (1) experience in job, (2) articulate but not argumentative, (3) hard workers, and (4) able to be released for short periods. The management training staff in collaboration with the researcher determined focus group membership using these criteria.

5. The questionnaire was administered to 68 out of the total of 72 middle managers of the corporation. Four middle managers were unavailable during the time of the survey. After non-responders were subsequently contacted, 53

responses were eventually received, a response rate of 77.9%.

Respondents were requested to participate in the survey, having been given a week's advance notification. A centrally located facility within the company headquarters was utilized as a site for the administration of the questionnaire. Two half days were set aside to provide ample opportunity for respondents to schedule their attendance. Completion of the questionnaire usually took less than 30 minutes.

A list of respondents was maintained by one of the management development consultants on the project team (although no linkage of respondent and completed form occurred). This list of respondents was used by the consultants to identify initial non-respondents from the cohort of 72 subjects. Non-respondents were subsequently invited to another scheduled date for questionnaire completion. Invitation to this subsequent session was either by direct telephone, voice mail, or electronic mail.

Members of the focus group were instructed to discuss the needs assessment project with their colleagues and to encourage middle management colleagues to complete the questionnaire. This tactic helped middle managers appreciate that this was *their* needs assessment and that it was in their interest to assure a high response rate to the survey questionnaire.

Ethics

To ensure the anonymity of the organization where the study was conducted, an initial written agreement between the organization and the researcher was concluded specifying that the organization would not be named in the thesis or in any subsequent academic reporting of findings.

Anonymity of informants was maintained through the following procedures:

1. Those persons being interviewed were not identified, other than that they were members of a particular group. Quotations were likewise not attributed to individuals. The nature of the study and the purpose of the interviews was described prior to commencing the interview. At the start, interviewees were informed (verbally) of their right to withdraw and that information would be held in confidence.

2. Focus group membership was voluntary. The nature and purpose of the focus group was clearly described prior to the start of the group. Further, those in attendance were advised that they could opt out at any time.

3. Questionnaire respondents were informed by means of a cover sheet that their responses would not be individually identified, that they had the right to opt out of the questionnaire, and that their participation was voluntary.

4. Care was taken to ensure that information collected from the organization's documents did not reveal the identity of the organization.

5. The same considerations for anonymity applied to those persons attending the large group sessions. It was made explicit to those attending large group sessions that the research was a combined effort of the organization's training department and the University of Alberta to determine training and development needs of middle managers and would not be used for other purposes.

6. A Research Ethics Review Committee at the University of Alberta reviewed the proposal for this research and approved it as meeting the ethical guidelines and standards for academic research.

Data Analysis

Appropriate analyses followed data collection strategies. Specifically, data from senior managers gathered by means of individual semi-structured interviews were analyzed by using theme and content analysis. Theme and content analysis was used to analyze data from the large group sessions held with the middle managers. Information from the large group sessions held with line managers was similarly subjected to theme and content analysis. "Content analysis is a research technique for the objective, systematic, and quantitative description of the manifest content of communication" (Borg and Gall, 1989, p.519).

A simple procedure of classifying identical or very closely related terms was employed to distil and consolidate the information collected. For example, the large group sessions produced 949 response items to the question, "What are the generic management activities of middle managers?" These items had been categorized by the large groups into categories. By grouping the categories generated by the sessions, the researcher developed a common list of categories. It was necessary to review the content items within the categories to ensure that what one session had categorized as a generic activity was very closely related to what other sessions had meant by using identical or similar terms.

Corporation documents were read to ascertain the organizational context. Recurring themes and significant entries regarding training and development were noted. The intent of the document analysis was not so much to collect empirical data, as to appropriately ground the study in the organizational context. The documents were reviewed to reveal what previous measures of training and development needs had been taken, the nature of the organization's policies regarding training and development of its middle managers, and the kinds of training and development opportunities made available to these persons. This process of discovering the organizational context was emphasized by Nadler's (1982) Critical Event Model and Geroy's (1989) Single Organization Assessment Model. These models were synthesized to form the conceptual model used in this study.

The results of the questionnaire were analyzed using descriptive statistics. The SSPSx computer program was utilized. Respondents rated generic management activities on two dimensions, importance and proficiency. A quantitative measure of the training and development need for each generic activity was calculated by multiplying the importance ratings by the proficiency ratings for each respondent. A comparison of the mean importance times the mean proficiency scores across all generic activities yielded measures of the relative training needs on the activities listed. The higher the mean score, the more critical a training need is for the middle managers' job.

Nowack (1991) used importance and proficiency to get a quantitative measure of training needs. The formula Nowack (1991) used was $\underline{X}I \times \underline{X}P = \underline{X}N$, where $\underline{X}I$ is mean importance score times mean proficiency score equals mean need score for a particular managerial dimension of a job. In order to use Nowack's formula, it was necessary to statistically manipulate the proficiency scores because the project questionnaire had reversed the proficiency rating scale. To deal with the reversal of the proficiency scale, and the use of a six-point scale, responses were recoded for statistical analysis in the following manner: Importance scores were recoded where 0 = 1, 1 = 2, 2 = 3, etc.; proficiency to where 0 = 6, 1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1. The same statistical treatment was undertaken for the responses from the senior management group as for the middle manager responses.

The statistical findings were tabulated using the Nowack (1991) formula. The resultant mean need scores were ranked from high to low. This procedure was also used for the findings from the senior management group, permitting a comparison of results to those of the middle managers.

A quadrant analysis technique was employed to deal with the descriptive statistics generated by this study. Quadrant analysis placed the importance means along a horizontal axis, proficiency along a vertical axis. The two axes intersected at a mean of 50. A T-score was assigned for each mean importance and mean proficiency score of the eleven generic management activity categories. The T-score was a statistical value given to the mean of each activity where responses are distributed along a line from 0 to 100 -- thus the intersection of the two axes at a mean of 50. The standard deviation for a quadrant analysis is 10.

The quadrant anlaysis resulted in four cells or quadrants: 1) low I, high P; 2) high I, high P; 3) low I, low P; and 4) high I, low P. The advantage of the quadrant analysis technique was that it yielded a schematic presentation of the findings, using low and high I and P scores.

Methodology Relating to Critical Reflection

In considering the methodology used to develop the qualitative aspect of the research it is worthwhile to restate the definition of reflection:

> Reflection refers to the crucial process by means of which we make sense of evidence -- whether from specific data-gathering procedures or from our practical experience as it occurs. In order to ensure that we *learn* from experience, then, it seems reasonable to suggest that the process of reflection upon evidence is just as worthy of careful thought as the process of gathering evidence. (Winter, 1989, p.25)

This definition makes several important points: 1) reflection has as its purpose the making sense of evidence; 2) the process of reflection is as important as the gathering of evidence, and 3) the evidence reflected upon can be either the result of specific data-gathering or experience.

Bogdan and Biklen (1993) outlined five categories of reflection useful in qualitative research. Their categorization was used to structure the reflective process used in this inquiry. Bogdan and Biklen's (1993) categories were:

1. Reflection on analysis. Significant topics covered in this aspect included discussion of what was learned from the project both in terms of process and results. Further, the reflection on analysis included speculation concerning the causality of certain events and findings, emergent themes, connections, and additional ideas that developed.

2. Reflection on method. Comments/observations were made concerning the efficacy of strategies and procedures employed in the study. Reflections were made concerning decisions affecting the design and conduct of the project. As well, a number of reflective comments were made regarding how the needs assessment process employed in the project might best be altered in future research. In this arena of reflection, a qualitative analysis was made of the rapport between the various actors/subjects and the researcher.

3. Reflections on ethical dilemmas and conflicts. The approach taken here was critical reflection on the values and responsibilities that the researcher held towards the subjects as well as to the profession of adult education, and the extent to which these values potentially or in fact conflicted with the project's stated intentions/goals.

4. Reflections on the observer's frame of mind. Bogdan and Biklen (1993) pointed out that the "opinions, beliefs, attitudes, and prejudices" (p. 88) of the researcher can be revealed through reflection by the researcher on his own way of thinking. Such recognition of the underlying belief structure, on reflection, lead to new understanding about the nature of training needs assessment.

5. Points of clarification. A number of clarifications were made about the processes used in the project and about some key concepts including the difference between a training needs assessment and other (social or educational)

needs assessments, the role of middle managers in this particular organization, the investigation of the corporate culture, and interpretation of the difference between Nadler's (1982) Critical Events Model and Brookfield's (1986) Critical Incident Model of training needs assessment.

A *collaborative* dimension to the reflective process was achieved through the use of a retrospective group interview with the key human resource development persons at the corporation actively involved in the project. An interview was held with the project team.

The group interview was structured using the same Bogdan and Biklen (1993) schema for reflection as used by the researcher in undertaking the critical reflection outlined earlier. This provided a consistent approach to the reflective process. It also allowed for "validation" of observations/reflections made by the researcher independent from those of the project team. It should be noted, however, that consistency between the project team's reflections and that of the researcher was not a primary objective. Where consistency occurred, it was considered confirmatory, however differences were also valued.

The group interview with the project team was tape-recorded and notes subsequently made from the tape. Notes were then analyzed for significant themes and notable observations contained therein.

The same ethical standards were applied to this group interview as used in the project, namely, the purpose of the interview was made explicit prior to commencement of the session, participants were assured of anonymity, and they were advised that they could withdraw from the interview at any time. Permission was obtained in advance of the session to tape-record its entirety.

Summary of the Methodologies

The methodological considerations outlined in this chapter related first to the conduct of the needs assessment project. Research procedures used for the interview, large group, focus group, document analysis, and questionnaire survey were presented. Then validity and reliability concerns were addressed from both quantitative and qualitative dimensions of the study. A discussion of the ethical considerations of the project followed an outline of the methods used to select samples. Finally, the methods used for data analysis were presented.

The methodological approaches used for the reflective component of the study were then developed. Reflection was seen to be as important as data-gathering. Reflections of the researcher followed a schema developed by Bogdan and Biklen (1993), as did a reflective interview with the project team. Consideration was given to the findings of the needs assessment and to the processes used.

CHAPTER IV

ANALYSIS AND DISCUSSION

Introduction

This descriptive and reflective study of the training and development needs of a cohort of middle managers in a large corporation was framed by five research questions. In this chapter, the analysis of data collected by various procedures will be presented and discussed as they relate to the first four research questions. The fifth research question on reflective insights gained through the needs assessment process will be addressed in Chapter V.

What are the generic management activities of middle managers in the organization?

The chief data source for this question was the middle managers, although an initial orientation to the question was gained by reviewing a skills rating survey that the company had undertaken previously.

Use of the nominal group technique [NGT] (see Scott and Deadrick, 1982; Korhonen, 1991) in the first phase of the large group sessions specifically sought data on this question. Likewise, sessions with line managers requested their perceptions of the middle manager's generic management activities. This question also appeared as the first item in the semi-structured interview schedule utilized in individual interviews with senior managers of the corporation. Thus, three perspectives to the same question were achieved. Later, a focus group consisting of middle managers reviewed and refined the collected data. Eleven categories specifying the activities of middle managers were derived from these data sources.

Document review

A company-wide skills rating survey completed prior to this study was reviewed to ascertain the nature of language used to describe job activities, and as an entre to the notion of generic activities. The survey instrument used by the corporation was a "forced-choice" rating to assess the relative performance of the employee in relation to each of the defined skills. Although the survey was not specifically intended to assess management skills, it was useful in providing a broad perspective on employee performance in the corporation.

The instrument surveyed 15 skills on dimensions of "importance to job" and "employee usage." The self-report survey examined the following 15 skills: customer service, leadership, behaviour flexibility, organizing and planning, decisiveness, work ethic, energy, respect, continuous improvement, team building, tolerance for ambiguity, coping with stress, coaching and development, written communication, and oral communication.

Results from a partial analysis of 29 middle managers' responses were made available for this review. The analysis indicated that in terms of importance to the job, middle managers ranked customer service, leadership, and continuous improvement (in that order) as the most important skills.

Interviews

The sample of seven senior management officers represented a diversity of backgrounds, experience in the company, and functional areas of responsibility. Six of the subjects held the title of Director, the seventh, Vice-President.

A content analysis of interview notes revealed that the senior managers broadly identified the generic management roles that middle managers held. Respondents produced global role descriptions, but even with interviewer probing, they had difficulty in providing key indicators or specified behaviours for the global descriptors. Table 4.1 lists these generic activities and the frequency with which they were mentioned.

A strong emphasis on people skills emerged. A total of 16 responses addressed the topic generally or some particular aspect of people skills. Descriptions relating to people skills included: communications skills, leadership, modelling positive behaviours, teamwork,

TABLE 4.1

Level II Manager Generic Management Activities Identified by Senior Managers during Semi-structured Interviews

Generic Management Activity	Frequency
A. People skills	5
- communication skills	4
- leadership	3
- ability to listen	1
- modelling positive behaviours	1
- consensus building	1
- teamwork	1
B. Process improvement knowledge	4
C. Financial skills/budgeting	3
D. Knowledge of area of responsibility	3
E. Lateral (creative) thinking	3
F. Flexibility in approach	3
G. Computer skills	2
H. Internal/external corporate relations	1
I. Customer focus	1
J. Labour relations	1

consensus building, and ability to listen.

Process improvement knowledge, financial skills and budgeting, knowledge of area of responsibility, lateral (creative) thinking, and flexibility in approach were also mentioned as generic management activities by three or more interviewees. Other responses noted by interviewees included: computer skills, internal/ external company relations, customer focus, and labour relations.

The semi-structured interviews provided an entry-point into data collection. The value of the interviews perhaps rested more in the strategic worth of generating interest and support for the project from senior management as contrasted to the limited specificity of answers to the three questions posed during the interviews. Nonetheless, the data identified beginning topics for a descriptive list of middle managers' generic management activities.

<u>Large group sessions</u>

Six large group session were held, each of one half day's duration. All sessions were held in a well equipped, large meeting hall in the company's training facility. Sessions #1, #2, #5, and #6 were scheduled for middle managers, while sessions #3 and #4 were set aside for sessions involving the line managers. All sessions followed an identical format. Specifically regarding research question 1, the NGT method was strictly adhered to as outlined in the previous chapter.

Respondents in the six sessions generated 949 response items to the question, "What are the generic management activities of level II managers?" A list of the response items, by group, can be found in Appendix D.

The categorization of the response items was a major task of the large group sessions. The categorization was completed using the NGT method which represented the work of the group participants, not the facilitator or the researcher. This method provided a mechanism for the realization of the collaborative dimension of the project. Table 4.2 lists the categories generated by the six large group sessions.

The categories identified by the six groups bore a remarkable similarity. While phrasing varied slightly from group to group, the meanings of the categories remained fairly constant when the response items within the category were examined. The content analysis to produce a synthesized statement of generic management activities became a relatively straightforward task.

The perceptions of middle managers about the generic management components of their job were uniformly shared across the 27 respondents in the large group sessions. Because 13 of 15 functional divisions of the corporation were represented by the respondent group, an assumption was made that the data represented the entire group.

TABLE 4.2

Job Categories Developed by Large Group Sessions

Group #1 (Middle Managers)

1. Administrative function
2. Change management
3. Communication
4. Customer/supplier services (internal/external)
5. Financial
6. Leadership
7. Objectives
8. Planning
9. Problem resolution
10. Process management
11. Senior management support
12. Staff/employee development
13. Staff management

Group #2 (Middle Managers)

1. Administration
2. Budgeting
3. Corporate strategy
4. Hiring
5. Personal development
6. Planning
7. Quality

TABLE 4.2 (Cont'd)

8. Staff development
9. Staff support, care & management of staff
10. Supervision
11. Supervision communication
12. Supervision delegation
13. Supervision leadership
14. Supervision performance management
15. Supervision problem solving/decision making

Group #5 (Middle Managers)

1. Appraisals
2. Communicate
3. Development & training
4. Financial
5. Functional
6. Plan
7. Pursuing improvement opportunities
8. Recruitment
9. Sell
10. Stewardship

Group #6 (Middle Mangers)

1. Budget
2. Communicate

TABLE 4.2 (Cont'd)

3. Customer relations
4. Develop staff
5. Economic business skills
6. External relations
7. Goals & objectives
8. Innovation
9. Manage change
10. Meetings
11. Personnel administration
12. Plan
13. Problem solving & decision making
14. Process management

Group #3 (Line Managers)

1. Communication skills/activities
2. Coach
3. Communication
4. Goal setting (individual/area)
5. Leadership
6. Management knowledge skills & abilities
7. Miscellaneous
8. Process improvement
9. Staff development
10. Strategic planning

TABLE 4.2 (Cont'd)

Group #4 (Line Managers)

1. Administration
2. Coach
3. Communication
4. Customer service
5. Financial management
6. Human resources
7. Leadership
8. Planning
9. Performance
10. Quality
11. Training & staff development

The data from interviews with senior management, although not as specified as those from the middle management group, also confirmed the middle managers' responses.

The perceptions of line managers about their supervisors' (middle managers') management activities was consistent across the two large group sessions held for line managers. Likewise, the listing of generic management activities was consistent with that of the middle managers themselves.

Confirmation that the perceptions of the three response groups -- senior managers, middle managers, and line managers -- were remarkably similar validated the findings. In other words, there was a uniform view throughout the organization of the generic management activities of middle managers.

This uniform view of the middle management job can be explained by: 1) the relative stability of the middle management workforce; 2) most senior managers had risen from the middle management ranks; 3) with few exceptions, the three levels of management were housed within a central office building which permits "visibility" of middle management activities; 4) the relative stability of the line management workforce.

The list of generic management activities was generated from the data collected from the six large group sessions and synthesized with information from the individual interviews with senior managers. The initial list consisted of 14 categories.

The initial list of categories including the key indicators for each category was scrutinized by the focus group. The group discussed the various categories and the items contained within each. Suggested changes that were generally agreed to were noted, and a subsequent revised statement of the generic management activities was developed and electronically mailed to members of the focus group. As well, the revised document was reviewed in detail by the Vice-President in charge of human resources in the corporation. Minimal changes were suggested by the reviewers and the revised list became the finalized statement of the generic management activities of middle managers.

The most significant changes from the initial document to the final statement were: 1) combining the goals and objectives category with planning; 2) process management became part of quality improvement; and 3) supervision was included in the staff management category. A number of wording changes to the key indicators were also made. Table 4.3 contains the final list of 11 generic management activities in alphabetical order.

The statement of the generic management activities of middle managers was a vital product of the early stages of this project. First, it provided an up-to-date job statement of exactly what were the management activities of some 72 middle managers in the corporation.

Second, the desired "ownership" of the project by the middle managers was achieved through their participation in the large group sessions and their representative input through the focus group.

TABLE 4.3

Generic Management Activities of Level II Managers

Administration

use time management skills

resolve conflicts

set/interpret policies and procedures

analyze and report on activities of area

authorize purchases, contracts, and expenditures

exercise technical skills of area

plan, prepare, and monitor budgets

manage projects

acquire resources (eg. human, physical, financial)

Change management

identify opportunities

keep track of industry/business/technological changes

act as a catalyst for implementing and creating change

manage change process

apply business approaches/strategies (eg. acquisitions, mergers, alliances, partnerships)

participate/facilitate cultural change

Communication

facilitate and participate in meetings

manage the white spaces

TABLE 4.3 (Cont'd)

interface between front-line and upper management

write reports

make presentations

utilize good communication/listening skills

communicate corporate and section strategies/policies

keep staff informed

sell ideas

market services

negotiate

Customer service

manage customer relations

resolve customer complaints

negotiate/consult with internal and external customers and suppliers

identify and meet needs of internal/external customers

Financial management

undertake financial analyses/reports

develop/utilize area/section measures

identify revenue opportunities

develop business case -- including N.P.V. and cost studies

TABLE 4.3 (Cont'd)

develop financial strategies for cost containment, operational efficiency, revenue generation to accomplish corporate and section goals

Leadership

manage human aspects of change

provide vision and direction

delegate

promote team building

provide systems/tools/environment to support staff

chair committees/meetings

represent area

act as role model

provide feedback

recognize achievements

remove road blocks

know and utilize staff expertise and knowledge

Planning

undertake strategic/operational planning

plan for area of responsibilities

utilize business/resource planning

forecast and plan for future

monitor opportunities/strengths/weaknesses/threats

TABLE 4.3 (Cont'd)

review and evaluate status of plans

develop measures/standards/objectives

align area/functional plans with corporate plans and goals

advise (recommend) corporate strategy

Problem solving

gather and analyze data/information

support individual and team initiatives

make decisions

facilitate problem solving and decision making

Quality improvement

innovate

demonstrate quality principles

foster continuous improvement

instigate quality initiatives

analyze/review processes

use process management concepts

Staff development

facilitate individual/area development plans

complete staff development analyses

use coaching techniques

TABLE 4.3 (Cont'd)

plan and implement training for staff

develop self

use career development strategies

provide staff with tools required -- equipment, training, resources

evaluate development progress

Staff management

recruit staff

administer performance management policy

complete performance appraisals

develop resourcing (staff) strategies

prepare/report MBO's

create positive staff morale

create an empowering environment

deal with employee relation issues

appreciate technical skills of staff

Third, multiple perspectives on the generic management activities of middle managers was achieved through the individual interviews of a sample of senior managers, and through the large group sessions held with a sample of line managers. Twenty-seven of the 72 middle managers responded to the invitation to attend large group sessions. While this was a low response rate, it was fortunate that respondents were considered highly representative of all functional areas of the company.

Fourth, the statement of generic management activities was next used to develop a survey questionnaire of the training and development needs of middle managers. When the generic management activities were determined, middle managers could be surveyed as to their training and development needs. Determining training and development needs became the next stage of the study.

An open category was created in the questionnaire to permit respondents to add to the list of management activities. Since the list of generic management activities was developed by middle managers themselves, it was not anticipated that many additional categories would emerge. It was thought important, however, to create an opportunity for the expression of divergent views.

Seven persons used this "other" category to identify the following additional activities:

1) Dealing with senior management -- V.P. & President

level direction on corporate projects, negotiating deadlines and dealing with Board members for special requests

2) Interpretation/translation /clarification of job assignment

3) Selling skills; account management; negotiating

4) Provide Technical/Professional Input (be a resource).

5) Policy development eg. on industry trends & developments

6) Innovative outlook

7) Negotiation: dealing with suppliers/vendors

It was interesting to note that a number of these "other" comments included a dimension of negotiating. One could only speculate if these respondents saw negotiating as an important activity so that it should have been a separate category, or if they meant negotiating to be something other than what was included in the customer service description (negotiate/consult with internal and external customers and suppliers).

Given a list of generic management activities, what are the training needs of middle managers?

The primary source of data addressing this question was the needs assessment questionnaire. The questionnaire consisted of two major components. In the first, respondents were asked to rate 11 categories of generic management activities along dimensions of importance and proficiency. A twelfth "open" category was included which respondents could use if they felt that a significant generic management activity had been overlooked.

A quantitative expression of need was determined, using Nowack's (1991) construct that mean importance times mean proficiency equalled mean need for the 11 rated categories.

The second component of the questionnaire asked four open-ended questions which collected data related to other research questions in the study. Findings related to these data will be discussed later in the chapter.

Middle managers' responses to the questionnaire

The questionnaire was administered to the middle managers following the procedures outline in the preceding chapter. Table 4.4 reports the mean importance and mean proficiency scores for each of the 11 generic management categories along with their rankings. Proficiency mean scores were inverted. That is, the lower the mean score, the higher the rated proficiency for that item.

A six-point Likert scale (0 to 5) was used in the questionnaire. The range of the mean scores for importance and proficiency on each of the 11 generic management

TABLE 4.4

Middle Managers' Importance and Proficiency Mean Scores and Ranks

Category	Importance		Proficiency	
	Mean	Rank	Mean	Rank
Administration	5.31	3	2.33	2
Change Managemt.	5.26	4	2.81	9
Communication	5.51	2	2.51	5
Customer Service	5.13	7.5	2.38	3
Fin. Management	4.62	11	2.93	10
Leadership	5.64	1	2.43	4
Planning	4.98	10	2.76	7
Problem Solving	5.13	7.5	2.32	1
Quality Imprvmt.	5.08	9	2.96	11
Staff Developmt.	5.23	5	2.77	8
Staff Management	5.21	6	2.55	6

was quite narrow: from 5.64 to 4.62 on importance, and from 2.32 to 2.96 for proficiency. Overall, the 11 activities were rated relatively high on both dimensions.

In the order of importance, middle managers rated leadership, communication, and administration as the most important generic management activities of their jobs. Quality improvement, planning, and financial management were considered least important. Leadership and communication are people skills which confirms the views expressed in interviews by senior mangers as important aspects of the middle managers' jobs; however, senior managers placed less emphasis on the administrative functions. It could be speculated that middle managers perceived their jobs to be more routinized and well-defined than did their senior managers.

Problem solving, administration, and customer service were job activities rated by the middle managers as areas where they were most proficient. Change management, financial management, and quality improvement were rated as areas in which they had least proficiency. Quality improvement and financial management were also considered least important to their jobs, suggesting that they probably spent little time or concern regarding these items. Change management was ranked fourth in importance, but ninth in proficiency which meant, in relative terms, it was a relatively important activity at which middle managers did not consider themselves as proficient as some other areas.

Middle managers considered themselves to be proficient at administration, which they ranked among the most important aspects of their work. On the other hand, they perceived leadership and communication as important, but did they not rate themselves as proficient at these activities. Leadership ranked first in importance but fourth in proficiency; while communication ranked second in importance but fifth in proficiency. Although not a large gap, there were some discrepancies between what middle managers perceived as important and what they perceived their proficiencies to be.

Nowack (1991) combined the dimension of importance with proficiency to arrive at an expression of need. His construct $\underline{X}I \times \underline{X}P = \underline{X}N$, accounted for differences between felt wants and felt needs. Table 4.5 describes the training and development needs of middle managers when their mean scores for importance and proficiency are combined using Nowack's (1991) construct.

The $\underline{X}N$ values ran from a high (greatest need) of 15.03 to a low (least need) of 11.91. The perceived greatest needs in order of importance were in: quality improvement, change management, and staff development. Least need was expressed for administration, customer service, and problem solving.

The categories of perceived least need (administration, customer service, and problem solving) may reflect middle managers' long experience in their jobs. That is, they were well experienced in the daily routines of the job (administration) and saw themselves as dealing effectively

TABLE 4.5

Training and Development Needs for Generic Management Activities

Category	Mean Need	Rank
Quality Improvement	15.03	1
Change Management	14.82	2
Staff Development	14.50	3
Communication	13.82	4
Leadership	13.73	5
Planning	13.72	6
Staff Management	13.26	7
Financial Management	13.52	8
Administration	12.35	9
Customer Service	12.20	10
Problem Solving	11.91	11

with the problems in their areas of responsibility (problem solving) and with internal and external customers (customer service).

The categories where greatest need was identified (quality improvement, change management, and staff development) may lie in areas in which middle managers had least experience. Change, improvement, and teaching and learning were relatively unfamiliar to middle managers who have been stable in their positions for a considerable length of time. The need for training and development in these generic management activities implied change and innovation rather than stability and routine.

<u>Senior managers' responses to the questionnaire</u>

Senior managers (level III) completed the survey questionnaire rating as a group those middle managers who reported to them. Responses were received from 16 of 18 senior managers. The data collected from senior managers permitted a comparison between the middle managers' self-report and the rating of senior managers. Table 4.6 presents senior managers' ratings for importance and proficiency of middle managers on generic management activities.

Narrow ranges of means occurred for both importance and proficiency dimensions: from 4.94 to 5.56 and 2.06 to 3.00, respectively. Senior managers' ratings of the categories for importance and proficiency were relatively high overall.

Leadership, problem solving, communication, and customer service were seen by senior managers as highest on importance ratings of the middle management job. Senior

TABLE 4.6

Importance and Proficiency Mean Scores and Ranks

Category	Importance		Proficiency	
	Mean	Rank	Mean	Rank
Administration	5.13	7.5	2.56	5
Change Management	5.13	7.5	2.88	10
Communication	5.31	3.5	2.47	4
Customer Service	5.31	3.5	2.06	1
Financial Managemt.	5.00	10	2.75	9
Leadership	5.56	1.5	2.31	3
Planning	4.94	11	3.00	11
Problem Solving	5.56	1.5	2.09	2
Quality Improvemt.	5.13	7.5	2.69	7.5
Staff Development	5.25	5	2.69	7.5
Staff Management	5.13	7.5	2.63	6

managers rated financial management and planning as least important activities.

Senior managers indicated that middle managers were most proficient at customer service, problem solving, and leadership, while least proficient at planning, change management, and financial management.

Senior managers consider middle management staff to be proficient at the important activities of their job -- customer service, problem solving and leadership. Likewise, senior managers perceived middle managers to be least proficient at those activities perceived as least important. This suggests that senior managers perceived middle managers as performing with consistency -- most proficient at most important activities, and least proficient at areas of least importance.

Table 4.7 presents the mean need and rankings for the 11 generic management activities of middle managers as perceived by senior managers. As with middle managers' responses, need was calculated using Nowack's (1991) construct: mean importance times mean proficiency equals mean need ($\underline{X}I \times \underline{X}P = \underline{X}N$).

The greatest training and development needs for middle managers as expressed by senior managers was calculated to be in the following management activities: planning, change management, and staff development; least need was indicated for leadership, problem solving, and customer service.

These findings were fairly consistent with the ratings for importance and proficiency given by senior managers of those middle managers who reported to them. Specifically, senior managers rated middle managers to be least proficient

TABLE 4.7

Training and Development Needs of Middle Managers for Generic Management Activities as Rated by Senior Managers

Category	Mean Need	Rank
Planning	14.82	1
Change Management	14.76	2
Staff Development	14.12	3
Quality Improvement	13.80	4
Financial Management	13.75	5
Staff Management	13.49	6
Communication	13.12	7.5
Administration	13.12	7.5
Leadership	12.84	9
Problem Solving	11.62	10
Customer Service	10.94	11

at planning, change management, and financial management. Planning and financial management were also considered least important. Change management was seen to be an area of greatest need along with planning and staff development. It was interesting that planning was identified as an area of training and development need when it had been rated as an area of least importanc Perhaps senior managers' perceptions were biased by their own involvement in planning a number of restructuring and strategic priorities for the company at the time the questionnaire was administered.

Staff development, a training and development need, rated as of moderate importance as well as proficiency, was calculated to be the third highest area of need.

Customer service, leadership, and problem solving were rated as areas in which middle managers were most proficient; which coincides with their areas of least need.

Comparison of middle and senior managers' responses

Figure 4 presents a rank-order correlation matrix for respondents' mean rankings on the 11 generic management categories. A Spearman rho rank order correlation was calculated for each of the comparisons. It is a "numerical expression of the degree and direction of a correlation between two variables. It varies in size from 0 (no correlation) to 1.0 (a perfect correlation) and may be either positive or negative" (Charles, 1988, p. 203). In this instance, the two variables are importance and proficiency ratings of senior and middle managers. The correlation of middle managers' ratings of their own proficiency to their ratings of the importance of the generic management activities was low (.4100). Likewise, there was a low correlation (.3881) between senior managers' ratings of middle manager proficiency with middle managers' self-rating of importance of the generic management activities. The four other correlations were quite high (.5622 to .8551) which suggested that middle managers and senior managers shared similar views of the two variables.

Comparison of Rankings: Middle and Senior Managers

	Importance: mid-managers	Proficiency: mid-managers	Importance: senior mgr.
Proficiency: middle managers	.4100 N(11) Sig .105		
Importance: senior managers	.5622 N(11) Sig .036	.6217 N(11) Sig .021	
Proficiency: senior managers	.3881 N(11) Sig .119	.7882 N(11) Sig .002	.8551 N(11) Sig .000

Figure 4. Spearman rho Rank-Order Matrix

Table 4.8 presents the most important and least important rated categories for the two groups. The comparison indicated a highly consistent view of generic management activities on the dimension of importance. Both groups rated leadership and communication as most important. Middle Managers also considered administration as important, while senior managers rated equally problem solving and customer service as important activities.

Consistency of ratings was also noted on those generic management activities in which middle managers were rated least proficient. Both groups rated planning and financial management as categories of least proficiency. Quality improvement was also rated lower in proficiency by middle managers. Senior managers also rated quality improvement lower in proficiency, along with four other activities that had identical mean scores.

A comparison of middle and senior managers' perceptions of the most and least proficient generic management activities also suggested a high degree of consistency between the two groups (see Table 4.9). Both groups rated problem solving and customer service as activities in which middle managers demonstrated most proficiency. Middle managers also considered themselves to be most proficient in administration, while senior managers selected leadership as another area of high proficiency of middle managers.

Middle and senior managers both rated change management

TABLE 4.8

Comparison of Importance Ratings Between Middle Managers and Senior Managers

MOST IMPORTANT	
Middle Managers	Senior Managers
Leadership	Leadership
Communication	Communication
Administration	Prob. solving/Cust. serv.
LEAST IMPORTANT	
Middle Managers	Senior Managers
Planning	Planning
Financial management	Financial management
Quality improvement	Quality improve. & others

and financial management as generic management activities where middle managers were least proficient. Middle managers also rated quality improvement as an area of least proficiency, while senior managers thought that middle managers were least proficient in planning.

The comparison of middle managers' perceptions with senior managers' perceptions on the same dimensions of most and least importance and most and least proficiency showed that they shared identical views for two of three categories on each dimension.

Comparison of the middle managers' greatest and least training and development needs between middle and senior managers revealed a similar pattern of consistent perceptions (see Table 4.10). Both groups rated change management and staff development as categories of greatest need. Middle managers rated quality improvement as another activity of training and development greatest need, while senior managers rated planning as another greatest training and development need of middle managers.

Both middle and senior managers rated customer service and problem solving as generic management activities requiring least training and development. Senior managers also rated leadership as another category of least need, while middle managers felt that administration was another activity of least need for their training and development.

A pattern emerged that two of three categories were identical when a comparison was made between greatest and least needs expressed by the two groups. This was the same degree of compatibility of perceptions noted in the comparison of importance and proficiency ratings made earlier.

TABLE 4.9

Comparison of Proficiency Ratings Between Middle and Senior Managers

MOST PROFICIENT	
Middle Managers	Senior Managers
Problem solving	Problem solving
Customer service	Customer service
Administration	Leadership
LEAST PROFICIENT	
Middle Managers	Senior Managers
Change management	Change management
Financial management	Financial management
Quality improvement	Planning

Quadrant analysis of responses

A quadrant analysis of generic management needs was used to place the importance means along a horizontal axis and the proficiency means along a vertical axis. The two axes intersected at a mean of 50. A T score is a standard

TABLE 4.10

Comparison of the Training and Development Needs Between Middle and Senior Managers

GREATEST NEEDS	
Middle Managers	Senior Managers
Change management	Change management
Staff development	Staff development
Quality improvement	Planning
LEAST NEEDS	
Customer service	Customer service
Problem solving	Problem solving
Administration	Leadership

score with a mean of 50 and a standard deviation of 10. Converting rating scale scores to T scores provided a standardized basis for making comparisons across respondent groups. The quadrant analysis was used to plot middle and senior managers' responses for comparative purposes.

Table 4.11 lists the middle managers' T scores for importance and proficiency for each of the 11 generic management activities, along with the identified quadrant for each activity. The quadrant analysis of middle managers' importance and proficiency scores are schematically presented in Figure 5.

Quadrant #1 (Low Importance -- High Proficiency) was first examined. Given the perceived low importance of these activities, were middle managers devoting time/energy on activities that they were relatively expert at, but which were rated low in importance? It was also interesting to consider that middle managers rated customer service low in importance despite the concerted attention paid to this activity through strategic plans and training and implementation sessions, and a functional unit was specified to oversee activities throughout the corporation designed to increase customer service.

Quadrant #2 (High Importance -- High Proficiency) might be seen as including activities in which middle managers expressed most confidence in their abilities These activities included: administration, leadership, staff management, and communication. Middle managers rated their proficiency at administration and problem solving to be more than one standard deviation above the mean. These generic management activities were rated within one standard deviation of the mean for importance. Likewise, they rated communication and leadership greater than one standard deviation above the mean for importance, but within the

TABLE 4.11

Middle Managers' T Scores for Importance and Proficiency and Quadrant Placement of Generic Activities

Activity	Importance	Proficiency	Quadrant	
Administration	54.39	61.93	HH	2
Change management	52.74	41.74	HL	4
Communication	61.92	54.33	HH	2
Customer service	47.79	59.84	LH	1
Financial managemt.	28.73	36.98	LL	3
Leadership	66.90	57.46	HH	2
Planning	42.14	44.07	LL	3
Problem solving	47.79	62.18	LH	1
Quality improvemt.	45.66	35.44	LL	3
Staff development	51.31	43.28	HL	4
Staff management	50.64	52.75	HH	2

High Proficiency	
#1 (LOW I--HIGH P) **HIGH P) #2** Problem solving Customer service	**(HIGH I--** Administration Leadership Communication Staff management
	High Importance
#3 (LOW I--LOW P) **P) #4** Planning Quality improvement Financial management	**(HIGH I--LOW** Staff development Change management

Figure 5: Quadrant Analysis of Middle Managers' Responses

normal range for proficiency. Middle managers perceive their strengths to be in administration, leadership, communication, and staff management.

Quadrant #3 (Low Importance -- Low Proficiency) included planning, quality improvement, and financial management. Of all activities, financial management was furthest from the mean, suggesting that it was seen as the activity receiving least attention. Proficiency scores for financial management and quality improvement were more than one standard deviation below the mean on the proficiency axis. Both were rated on importance as being low, however, only financial management was more than one standard deviation below the mean on importance as well. In other words, where low proficiency was indicated, it was on activities that were rated as low importance and therefore requiring least attention insofar as training and development initiatives.

Quadrant #4 indicates High Importance -- Low Proficiency). This quadrant might be considered to be the quadrant where training and development concerns are the greatest since activities located here are perceived to be important to the job, but proficiency of the activity had been rated low. The activities identified were change management and staff development. Given organizational restructuring, rapid changes in technology, changes in priorities, and increased market competition, it was understandable that change management was identified as an activity of high importance. For themselves as well as for their jobs, change was a major issue facing middle managers. Staff development may have been rated similarly because of its relation to the concern with change management.

Senior managers' ratings of middle managers

The results of the quadrant analysis for importance and proficiency mean scores of senior managers (Level III) are presented in Table 4.12. The results of the quadrant analysis are schematically presented in Figure 6.

Quadrant #1 (High Proficiency -- Low Importance) had administration as the only generic management activity which senior managers rated the middle managers as being high in proficiency in an activity of low importance.

Quadrant #2 (High Proficiency -- High Importance). Level II managers were rated by their supervisors to have strengths in communication, customer service, leadership, and problem solving. These activities were also considered by the senior managers to be above the mean for importance to the job. Customer service and problem solving were scored more than one standard deviation above the mean for proficiency. Problem solving was also rated more than one standard deviation above the mean on the importance axis. Leadership was seen by senior managers as a generic management activity which was more than one standard deviation above the mean for importance to the middle managers' job.

This cluster of activities (communication, customer service, leadership, and problem solving) suggested that senior managers valued middle managers' strengths as pragmatic, communicative links between customers and the corporation.

Quadrant #3 indicates activities which rated Low Proficiency -- Low Importance. In this quadrant change

TABLE 4.12

Senior Managers' T Scores for Importance and Proficiency and Quadrant Placement for Generic Management Activities

Activity	Importance	Proficiency	Quadrant	
Administration	45.26	50.10	LH	1
Change management	45.26	39.19	LL	3
Communication	54.46	53.41	HH	2
Customer service	54.46	67.53	HH	2
Financial managemt.	39.15	43.55	LL	3
Leadership	66.69	58.82	HH	2
Planning	36.12	34.83	LL	3
Problem solving	66.69	63.18	HH	2
Quality improvemt.	45.26	45.74	LL	3
Staff development	51.38	45.74	HL	4
Staff management	45.26	47.91	LL	3

management, financial management, planning, quality improvement, and staff management activities were all rated by senior managers as low importance to the job and at which middle managers were considered to be low in proficiency. Planning and financial management were more than one standard deviation below the mean for importance.

High Proficiency

#1 (LOW I--HIGH P) **HIGH P) #2**	**(HIGH I--**
Administration	Communication Customer Service Leadership Problem Solving
	High Importance
#3 (LOW I--LOW P) **LOW P) #4**	**(HIGH I--**
Change Management Financial Management Planning Quality Improvement Staff Management	Staff Development

Figure 6. Quadrant Analysis of Senior Managers' Responses

It was noted that financial management was an activity considered to be needing training and development as revealed by individual interviews with a number of senior managers and also indicated by a number of middle managers on an open ended question. It was therefore interesting that financial management was rated low in importance by senior managers. Senior managers rated the proficiency of middle managers to be below one standard deviation from the mean for change management and planning activities.

Quadrant #4 (High Importance -- Low Proficiency) was considered the area where the training and development need was the greatest -- activities considered important to the middle management job, but activities at which senior managers perceived middle managers to have low proficiency. Staff Development was the only generic management activity to be placed in this quadrant. Quadrant #4 requires most atttention paid to it by training and development planners because it indicates perceived low proficiency in an activity rated to be high in importance.

Comparison of middle and senior managers' quadrant analyses

The quadrant analyses of the middle and senior managers' T scores were plotted on the same chart (see Figure 7) for comparative purposes. In comparing the ratings of middle managers (Level II) and senior managers (Level III), there were no statistically significant differences in the mean scores of the rated importance and proficiency of the 11 generic management skills between the two groups.

Quadrant #1 (Low Importance -- High Proficiency)

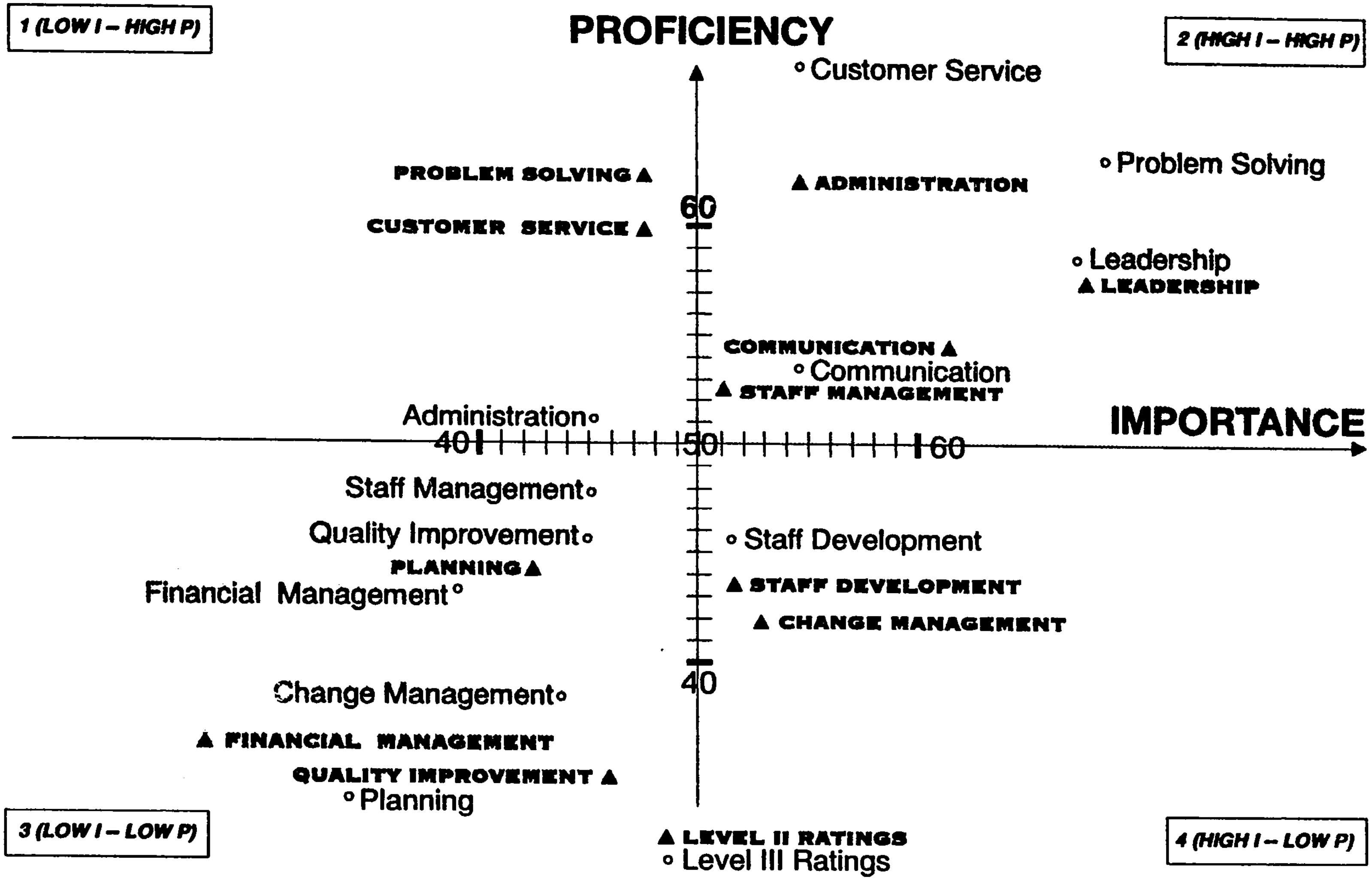

Figure #4 : Comparison of Quadrant Analysis

included: problem solving and customer service rated by middle managers, and administration rated by senior managers. This quadrant may suggest activities to which middle managers devoted more energies than the importance of the job warranted, however this analysis indicated that all three activities were less than one standard deviation below the mean on the importance axis, and only problem solving (rated by middle managers) was greater than one standard deviation above the mean for proficiency. Thus, problem solving was the one generic management activity potentially of concern.

Quadrant #2 (High Importance -- High Proficiency) indicated generic management activities where middle managers displayed strengths, important areas of the job where they were high in proficiency. Communication and leadership received similar ratings from both middle and senior managers. Leadership was seen by both groups to be highly important (66.90 for middle and 66.69 for senior managers managers, respectively). Senior managers rated their "direct reports" higher on customer service and problem solving than did the middle managers themselves. Middle managers, however, rated themselves to be more proficient in administration, and staff management than did senior managers.

The differences in rating administration were quite dramatic. Middle managers perceived themselves to be highly proficient (61.93) in administration which they also rated high in importance (54.39), while senior managers rated middle managers to be much less proficient (50.10) in administration which they also perceived to be far less important (45.26) as a generic management activity.

There also were marked differences in the placement of customer service and problem solving. Customer service was rated by senior managers as the activity where middle managers were most proficient (67.53). Middle managers rated their proficiency at customer service much lower (59.84) and perceived it to be less important (47.79 as compared to 54.46). Similarly, senior managers rated problem solving as highly important (66.69) compared with middle managers' importance rating of 47.79: proficiency was rated high by both levels of managers (63.18 and 62.18, respectively).

Although the rating differences on staff management were not as great, middle managers saw this activity as high in both importance (50.64) as well as proficiency (52.75), while senior managers rated staff management below the mean for both importance and proficiency (45.26 and 47.91, respectively).

<u>Quadrant #3</u> (Low Importance -- Low Proficiency) included the following activities by both groups: planning, quality improvement, and financial management. Staff management was rated to be in this quadrant by senior

managers but middle managers rated themselves as being somewhat more proficient and the activity to be somewhat more important, however the difference between the two was not significant when subjected to a T test.

The finding that financial management was perceived to be of low importance to the job (28.73 for middle managers and 39.15 for senior managers) was contradicted by information from other sources. Interviews with some senior management personnel suggested that financial management was becoming a more important activity of the job. For example, a strategic decision had been made by the corporation to make the functional units more cost-accountable and wherever possible, to show cost recoveries or profits. Usually, middle managers were in charge of these functional units. There was an obvious gap between company policies and directives and the perceptions of middle managers regarding the importance of financial management in their job. Nevertheless, senior managers rated the importance of financial management as low in importance in the face of the policy decisions they had enacted and the views they had expressed in interviews.

Quality improvement was perceived by middle managers to be their least proficient generic management activity (35.44). Quality improvement could be of more concern for training and development consultants, given that T scores for both middle and senior managers placed this category closer to the mean for importance than either group did for financial management. Senior managers, while rating middle managers as being below the mean for proficiency in quality improvement, had a more positive view of middle managers' proficiency in this activity than did the middle managers themselves.

Middle managers rated themselves as more proficient in planning than did the senior managers, however both groups saw planning as relatively low in importance to the job.

Quadrant #4 revealed generic management activities which were rated High Importance -- Low Proficiency. It showed that staff development had been rated by both groups as belonging in this quadrant. Both groups rated staff development as near the norm on the dimension of importance (T scores of 51.31 and 51.38 for middle and senior managers, respectively). Both groups rated middle managers' proficiency in staff development to be low, but within one standard deviation of the norm (43.28 and 45.74). The perception, then, was that middle managers were somewhat lacking in proficiency in staff development, but this activity was only marginally above the norm in importance. Staff development could be considered a training and development need (because of the low proficiency ratings), but this need was not pressing (because the importance ratings were only marginally above the mean).

Middle managers' ratings for change management also fell within Quadrant #4. The T score was close to the norm (52.74) for importance, and the proficiency rating was low (41.74). Senior managers perceived middle managers to be lower in proficiency in change management (39.19), but they also rated its importance to be low (45.26). Because neither group rated change management as particularly important to the job, the significance of the low proficiency ratings on this category was diminished.

Training and development planners at the corporation might contemplate some initiatives on the topics of change management and staff development, but such initiatives should be cognizant of the relatively low importance placed on these topics by both senior management and the middle managers.

. Summary

A composite perspective on training and development needs of middle managers emmerged from these separate analyses. Using Nowack's (1991) construct, middle managers rated staff development, change management, and quality improvement as the generic management activities of greatest need. On the questionnaire, senior managers perceived staff development, change management, and planning to be areas of greatest need for middle managers.

Quadrant #4 (High Importance -- Low Proficiency) was also considered a basis for identifying aras of greatest training and development needs. Middle managers' rating of staff development and change management and senior managers' rating of staff development placed these generic management activities into this quadrant.

In summary, the four areas of greatest training and development needs for middle managers were in staff development, change management, quality improvement, and planning.

What are the preferred formats for meeting training and development needs of middle managers?

Content analysis was used to determine the preferred training delivery formats of middle managers as reported on an open-ended question in the questionnaire. A complete listing of responses is located in Appendix E. The three most preferred learning methods as reported in Table 4.13 were in-house courses, institutes, and certificate and degree programs. Other formats preferred to a lesser extent included industry conferences/seminars (8.33%), job rotations (8.33%), mentors (8.33%), and study groups (7.64%).

The most preferred methods of learning appeared to be formal/structured formats. This may reflect the most common past learning experiences of middle managers. From focus

TABLE 4.13

Middle Managers' Most Preferred Learning Formats

Format	Percent of Total Responses
In-house courses	20.14%
Institutes	18.75%
Certificate and degree programs	17.36%

group discussions and other information, there appeared to be considerable motivation to receive recognition for learning in the form of certificates or diplomas from institutes, colleges, or universities.

In their interviews, senior managers were all asked what the Training Centre could do to help middle managers deal with the changes in their jobs. While this was a somewhat different question than asking directly what senior managers perceived to be the preferred training and development formats, the question was designed to elicit responses regarding perceptions of the role that the Training Centre held in meeting middle managers' training and development needs.

While no predominant themes emerged from the notes of interviews with senior managers, a number of specific courses were recommended that senior managers believed would be helpful to the development of middle managers. Some senior managers felt that there should have been a mixture of in-house and vendor-offered learning opportunities. Others felt that most vendor courses and institutes were either not specific enough for the needs of middle managers, or such courses were merely expensive perks.

One of the questions posed at the large group sessions was designed to identify how the Training Centre could assist middle managers deal with changes in their jobs. Thirty-one suggestions were generated by the nominal groups in large-group discussions. Synthesis of these suggestions produced the following themes:

1) Partnerships with institutions offering accreditation for learning;

2) Increased resources (time and money) for training and development, including sponsorships;

3) Training plans tied to individual needs, including succession planning;

4) Internships (internal and external to the corporation);

5) Mentoring, and greater use of internal and external consultants;

6) A mixture of in-house and vendor supplied courses; and

7) More emphasis on "human skills" training.

The data from the interviews with senior managers and from the large group sessions confirmed the responses given by middle managers to the open-ended question. Clearly, a structured, formal format was the method most preferred by middle managers.

From a review of two corporate documents, Management Training Plan, and Training and Development Programs for Fall 1992 and Spring 1993 it was concluded that training and development formats were primarily structured in-house courses or paid employee attendance at management institutes. The documents revealed an extensive array of courses and programs available to middle managers.

All offerings listed in these documents were for structured, formal courses and/or programs. Other formats such as seminars, study groups, or work assignments were not mentioned either as alternative formats or as being recognized in policy statements.

The Level II Management Training Process identified in the Management Training Program offered guidelines and procedures to be followed in pursuing training opportunities. The major focus appeared to be on securing supervisory approval and financial authorization to take courses. This seemed to reinforce the notion of courses and institutes as the chief way of pursuing learning, although one entry under "procedures" referred to training and development needs being identified by the supervisor and the manager jointly and agreeing on appropriate training and development activities, i.e. course selection and on-job training.

What elements in the organizational environment are likely to influence the training and development needs of middle managers?

The chief sources of data for this research question were the large group discussion sessions, two open-ended questions on the questionnaire administered to middle managers, and a question on the interview schedule used with a sample of senior managers. A selected number of corporate documents were also reviewed to provide additional information concerning organizational elements which might influence the nature of training and development.

Large group sessions responses

In the large group sessions, middle managers and a sample of line managers were asked what changes in the next three to five years would affect the middle managers' job. Small group responses to this question were recorded on flip-chart paper which was retained and later recorded for analysis. In the analysis, no differentiation has been made between responses from middle managers and those of line managers, however, the recorded responses of line managers comprise sessions #3 and #4 in Appendix F. Appendix F lists all large group session responses to this question.

Table 4.14 provides a listing of the emergent change categories identified by the 346 recorded responses. A content analysis resulted in six categories.

The six broad categories of changes perceived to affect the middle management job over the next three to five years included: 1) changes in the external environment, 2) an increased financial orientation of the utility, 3) a shift in focus on the nature of the work, 4) greater emphasis on human resource management, 5) organizational structure changes, and 6) changes in technology.

Although participants did not remark on the inter-relatedness of these categories and the themes contained within each, it was obvious that such was the case. These comments also seemed to suggest considerable turbulence in the organization. Indeed, the organizational environment *itself* was characterized by change and training and development needs would be influenced by these changes.

Factors hindering training and development

The third open-ended question on the questionnaire sought to identify organizational factors which middle

TABLE 4.14

Changes Affecting Middle Managers' Jobs

External environment
Financial orientation
Focus on nature of work
Human resource management
Organizational structure
Technology

managers considered as hinderances to their training and development. A content analysis of the responses to the question yielded the following information:

1) The most common concern was lack of time;
2) Budget was the second most reported factor;
3) Workload;
4) Scheduling conflicts; and,
5) No clear training and development plan.

Table 4.15 presents the content analysis of the factors hindering middle managers meeting their training and development needs. A complete list of factors hindering training and development is located in Appendix G.

Lack of time and workload were mentioned 19 and 10

TABLE 4.15

Factors Hindering Middle Managers Meeting Their Training and Development Needs

Not enough time	19
Budget	15
Workload	10
Scheduling conflicts	8
No clear training and development plan	8
Unaware of available programs/courses	7
Lack of mentoring and guidance from senior management	6
Insufficient availability of one-day seminars	5
Demands on time at home	4
Training is not sufficiently up-to-date in hi-tech areas	4
Rapidly changing environment	3
Limited opportuntiy for job rotation and promotion	3
Lack of opportunity to practice what has been taught	2
Organizational structure causes time/budget constraints	2
Lack of high quality speciality programs	2
Perception that external training is a "perk"	1
Lack of needs assessment on an on-going basis	1
Courses specific to corporation	1

times, respectively, while budget was mentioned 15 times as a major hinderance to training and development. The lack of a clear training and development plan was mentioned by eight respondents, and another six said there was lack of mentoring and guidance from senior management.

A number of response categories related to scheduling and availability of information about training. Eight responses mentioned scheduling conflicts, seven mentioned they were unaware of programs and courses available to them, and five mentioned that there was insufficient availability of one-day seminars. Taken together, these responses could lead to a conclusion that middle managers perceived work pressures to be a significant factor hindering their training and development. If middle managers believed there was lack of time for them to attend to their training needs, a highly efficient information system could be of little consequence.

Factors helping training and development

A content analysis of responses to the open-ended question on factors which helped in meeting training and development needs is presented in Table 4.16. Appendix H contains a complete list of responses to this open-ended question.

Some of the more frequent replies included management

Factors Helping Training and Development

Management support	17
Funding	13
Information available re: courses/workshops	12
Training Area helpful	11
Learning can be immediately applied to job	7
Variety of delivery methods	5
Developed training plan	3

support (17), adequate funding of educational opportunities (13), the readily available information about training (12), and the helpfulness of the Training Centre (11). Differing perceptions were also noted concerning management support for training -- 17 respondents remarked favourably about support, while six felt there was insufficient mentoring and guidance from senior managers. Another eight mentioned lack of clear training plans, presumably a senior management responsibility.

It was interesting that 13 respondents mentioned adequate funding to be a help to them in meeting their training and development needs, while an exact same number of respondents had mentioned budget as a factor hindering training and development needs.

Another category of responses included both "helping" and "hindering" responses. Twelve respondents noted that there was information available concerning courses/ workshops, but sevn others indicated that they were unaware of available programs/courses.

Table 4.17 presents the three most frequent responses for open-ended questions #3 and #4. A contradictory view, emerges from this comparison. Limited budget was seen by one group of middle managers to hinder them in meeting their training and development needs, while another group perceived funding to be helpful in meeting educational needs.

TABLE 4.17

Factors Which Hinder or Help in Meeting Training Needs

Factors Which Hinder	Factors Which Help
Lack of time	Management support
Limited budget	Adequate funding
Workload	Available information

Interviews with senior managers

Themes emerging from the interviews with a sample of senior managers confirmed the perceptions of line and middle managers that changes over the next three to five years would significantly impact the training and development of middle managers in the corporation. Table 4.18 presents a content analysis summary of senior managers' perceptions of anticipated changes to middle managers' jobs over the next three to five years.

Senior managers most frequently mentioned increasing competition affecting middle managers' work. Competition was seen to be the result of deregulation in the industry, resulting in more than one service provider in the region where previously the company had held a local monopoly. Several senior managers mentioned that increased competition would lead to a greater customer focus in the corporation.

The second most frequently mentioned factor was "change." Some senior managers perceived that many aspects of the middle manager's job would be in a state of flux. These perceptions were best characterized by quotes such as "Level IIs will need to know how to manage change"; and "There will need to be flexibility in dealing with change."

Documents

The Management Training Plan (1991) document listed seven current issues and a plan of action related to these

TABLE 4.18

Senior Mangers' Perceptions of Changes to the Work of Middle Managers

Anticipated change	Frequency
Competition -- deregulation -- customer focus	6
Dealing with change	4
Technological changes	2
Entrepreneurial/intrapreneurial focus	2
Need for creativity	2
Restructuring of the organization	2
Diversity of management -- racial, cultural, gender	1

issues. While data collection for this study was completed in 1991, many of the issues still apply. The issues listed were:

1) Creating a lifelong learning community

> In a rapid changing environment, knowledge gained at any point in time is largely obsolete within a matter of years, and skills that once made people productive quickly become out-of-date. It is no longer functional to define Education and Training as a process of transmitting what is known; it must now be defined as a lifelong process of continuing inquiry. The most important learning of all for today's employee is to first realize and accept the concept of lifelong learning, and

then, learning how to learn the skills of self-directed inquiry.

2) Managers' Training and Development Responsibilities

Due to job/customer demands, managers too often have little or no time to manage their training and development responsibilities. Example -- properly assessing training needs, preparing candidates for training and development activities, ensuring application of newly acquired skills and knowledge, using performance evaluation process to assist with identifying training needs. Managers require additional knowledge and information to allow them to determine when training is the appropriate solution to a performance problem.

3) Course information

Managers do not have sufficient information regarding courses available (internal and external) and recommended core training programs.

4) Changing organization

The rapid changes experienced by XXXXX [the corporation] result in constantly changing training needs based on individual and job requirements.

5) Travel and training budgets

Training budgets must be justified. Example -- needs driven per the manager of the budget program.

6) Transfer of training to the workplace

More emphasis on transferring newly acquired skills/ knowledge to the workplace is required.

7) Customer demands/expectations

The organizational training and development demands are increasing significantly. Example -- full implementation of in-house core training programs, Total Quality training and Managing Personal Growth training. (pp. 2-3)

The issues described in this document were also identified in the data from other sources. For example, issue #2 mentioned that managers have little or no time to manage their training and development responsibilities. Time constraint was the most frequently mentioned response on open-ended question #3.

Changes in the organization (issue #4) was also mentioned by a number of senior managers in the interviews and was a theme present in small-group discussions. So too, a number of middle managers indicated that there was insufficient information available about course offerings, which was echoed in issue #3.

The corporate policy for funding of managers' training was: "Managers are eligible for a general management program up to two (2) weeks in length, every 3 to 5 years. Total tuition, travel and accommodation not to exceed $6000." This policy reinforced the notion of formalized courses and institutes as the corporation's preferred format. The sufficiency of this training allowance was perhaps debatable as reflected by the divergent opinions expressed on the survey questionnaire regarding training budgets.

An <u>Employee Attitude Survey</u> was commissioned by the corporation in 1993. That portion of the report specifically outlining middle managers' responses was reviewed to determine the extent to which training and development was mentioned either as a "strength" or a "concern."

The report listed 65 items in the "strength" category. A review of the items revealed only one related to training and development: "My work unit spends enough time and money on training and development of people." This item ranked 27th, which placed it above the 80th percentile, considered a very high strength item.

The report identified 32 response items in the "concern" category, although of these, only five ranked above the 60th percentile, and none above the 80th percentile. This was interpreted as five items being in the transitional concern area, none in the key concern area. No items in either of these categories were considered relevant to training and development issues. Only three items appeared related to training and development: "My manager/supervisor does not take a sincere interest in my personal development plans" (ranked 24th); "My manager/supervisor does not provide positive motivation and inspiration to achieve excellence" (ranked 29th); and, "When I make a mistake, I do not receive coaching and support from my supervisor/ manager" (ranked 30th).

The significance of the Employee Attitude Survey to this inquiry rested in the limited response items of either a favourable or unfavourable nature concerning training and development. It appeared that training and development factors did not influence employee attitudes to any great extent.

Summary

In this section, data were analyzed from: a) large group sessions, b) 2 open-ended questions on the questionnaire, c) senior managers' interviews, and d) documents. Questionnaire responses indicated that middle managers perceived lack of time, budget, and workload as the chief elements hindering their training and development; while management support, sufficient funding, and available information concerning courses and workshops were considered factors helping middle managers in pursuing training and development.

The overarching theme emerging from large group sessions and interviews with senior managers was that the environment was marked by change. Large group session responses categorized this change to be in the external environment, increased orientation to financial management, more focus on the nature of the work, change in human resource management, change in the organizational structure, and frequent technological change.

This view of change within the organization was repeated by senior managers who considered increased competition (related to industry-wide deregulation) and managing change as the factors most influencing middle managers' jobs.

Corporate documents, Employee Attitude Survey, Management Training Plan, and Training and Development Programs for Fall 1992 and Spring 1993 were analyzed. Emerging themes noted were: little or no time to attend to training and development, rapid change in the organization, and insufficient information concerning training. One document indicated that there was concern about the sufficiency of training budgets, while the Employee Attitude Survey found that middle managers considered that there were sufficient funds to support training and development.

Summary

This chapter presented findings related to the first four research questions of the study.

Eleven categories were developed in response to the first question, "What are the generic management activities of middle managers?" These activities were: administration, change management, communication, customer service, financial management, leadership, planning, problem solving, quality improvement, staff development, and staff management.

"Given a list of generic management activities, what are the training and development needs of middle managers?" was the second research question. Analysis revealed that staff development and change management were perceived to be training and development needs of middle managers by both middle managers themselves and by their senior managers. Additionally, quality improvement was perceived to be an area of training and development need by middle managers, while senior managers considered planning as an area of need for middle managers.

In-house courses, institutes, and certificate and degree programs were found to be the preferred learning formats of middle managers. The related research question was: "What are the preferred formats for meeting training and development needs of middle managers?"

The fourth research question was: "What elements in the organizational environment are likely to influence the training and development needs of middle managers?" Lack of time, budget, and workload were reported as factors hindering training and development, while management support, sufficient funding, and available information were considered factors helping training and development. Overall, the changing external and internal environment was seen as significantly influencing the job, and thus the training and development needs, of middle managers.

CHAPTER V

REFLECTIONS

Introduction

Winter (1989) wrote, "...the process of reflection upon evidence is just as worthy of careful thought as the process of gathering evidence" (p. 25). This chapter reflectively examines the evidence from the middle management needs assessment as well as the processes used to gather that evidence.

I took a more personal approach in writing this chapter, as the act of reflection required me to make explicit the meanings in the evidence I presented and that surfaced the connections and thoughts I had in looking back at the process of conducting a collaborative needs assessment. The significance of this reflection was that it added another level of analysis to the study. There was value in exploring the data in this way, recognizing that the researcher was central to what data were collected and what meaning was made of them. The result was an understanding of needs assessment that incorporated qualitative dimensions. My reflective insights may be of value to other researchers and practitioners who want to undertake a collaborative needs assessment (or other ppıoject) that is more sensitive to the complexities of continuing education in the workplace.

The framework I used to guide this reflection was taken from Bogdan and Biklen (1993) who outlined five categories of reflection. Their schema was intended for reflection upon fieldnotes, however, it was seen to be entirely useful for the purposes of this chapter. Bogdan and Biklen (1993) noted that reflection on fieldnotes helped researchers acknowledge the influence of observers on the phenomenon under study:

> Their goal is to purposefully take into account who they are and how they think, what actually went on in the course of the study, where their ideas came from. They are dedicated to putting this on the record in order to accomplish a better study. (p. 88)

The five categories of reflection were: 1) points of clarification, 2) reflection on analysis, 3) reflection on method, 4) reflection on ethical dilemmas and conflicts, and 5) reflection on the researcher's frame of mind. These reflections will be presented in turn in this chapter. Conclusions and implications following from the reflections and from the evidence will be presented in Chapter VI.

The literature which critiqued needs assessment was integrated into the reflections. It was important that collaborative training and development needs assessment be considered against the background of current thinking on the subject. This literature impacted the study because it expanded traditional practice of training and development needs assessment. In particular, writers such as Cross (1979), Monette (1979), and Marsick (1987a) pointed out that needs assessments have commonly taken a positivist, prescriptive approach which was at odds with humanistic/ empowering principles espoused by adult educators and which are coming to prominence in the field of human resource development. Elias and Merriam (1980) saw needs assessment as socially constructed and "riddled with value judgments" (p. 39). Likewise, Davidson (199[illegible]) criticized needs assessments as value-laden. These criticisms helped me to reflect upon my value judgments. I saw that value judgments were very much a part of a needs assessment. These judgments do not invalidate needs assessment as long as they are acknowledged instead of disguised as "truth" or "scientific fact."

Points of Clarification

Bogdan and Biklen (1993) noted: "In addition to all the heavy pondering we suggest you do, as an observer you also add sentences in the notes that are simply asides or that point out or clarify something that might have been confusing" (p. 88). In this section I differentiate between social/educational needs assessment and training needs assessments, discuss the role of middle managers, and clarify the critical incident model from that of the critical events model.

Training needs and social/educational needs assessment

Witkin (1984, 1992) has written extensively on the use of needs assessments in educational and social programs. She noted that American federal legislation required that needs assessments be conducted as part of the process of seeking government grants. Such assessments identified social or educational needs that are overlooked or insufficiently responded to by existing programs. The process often included examining community needs. Frequently, the various stakeholders in an agency (e.g., teachers, students, trustees, employers) were canvassed for their views on a broad issue (e.g., school busing).

In this study, needs assessment was narrowly defined as those activities directly related to the assessment of training needs for business and industry. While many similarities exist, it was clear that training needs assessment was constrained by a narrower, perhaps instrumental context -- assessing needs for improving productivity on the job. The organizations under study tend to be smaller, the issues directly related to work performance, and the focus is only on those directly related to the inquiry -- other stakeholders are not often consulted.

The role of middle managers in the corporation

My comments should be considered as being entirely impressionistic, not grounded in thorough investigation. From my interactions with middle managers, staff development consultants, and with the focus group about the generic management activities of middle managers, I developed the perspective that middle managers held jobs that were quite structured in nature with clearly defined responsibilities. There did not appear to be a great deal of interdependence and interchange of job functions. Each seemed to have a clearly defined "turf" or functional area. It also seemed to me that the chain of command was clear, with limited discretionary authority within their areas of responsibility. The middle managers' role, I hypothesized, may have accounted for their somewhat concrete view of generic management skills. It may also have accounted for their preferences for formal learning tied to certificates or degrees, as well as for independent rather than group or project experiences.

Critical events model vs. critical incidents model

The Critical Events Model developed by Nadler (1982) was intended to design training for jobs within a specified organization. The model encompasses eight linear events, plus one interconnecting event. These events are "critical" to the successful outcome of the training project. That is, they are crucial to the successful working of the model.

Brookfield's (1986) use of the term "critical" took on a rather different meaning. He may have intended a double meaning in outlining an approach to creating a staff development program: "critical" in the sense of critical reflection upon needs, and "critical" because the model was based upon assessing needs explicated through critical incidents in the workplace. Brookfield (1986) commented:

> Many techniques of needs assessment exist -- administering questionnaires, conducting interviews, observing participants, consulting with experts -- but most are extremely time consuming. One very useful, and quickly administered, method is that of "critical incidents." For effective staff development, a good first step is to ask all staff concerned to complete a critical incident exercise. This is a brief, written statement that forces participants to think about specific happenings. Many people find this easier than thinking more broadly or abstractly. The exercise will provide you with a series of one-paragraph statements from staff about their feelings and perceptions regarding the problems they face doing their jobs. You can then generalize on the basis of these individual statements. (pp. 251-252)

After the critical incidents are collected, they are synthesized to represent the major concerns voiced by staff. The list of major concerns then becomes the focal point for developing objectives and activities. Brookfield (1986) advised:

> It is very important that the program's objectives include all perspectives; that is, not only what participants *want* but also what administrators feel they *need*. This way, participants will "buy into" the training, and they will also come to realize what they don't know. (p. 252)

Brookfield's (1986) model was intriguing for me because it met two objectives of my study, namely, it was collaborative in nature and incorporated multiple perspectives.

Reflection on Analysis

Bogdan and Biklen (1993) recommended that when engaged in reflections on analysis you "speculate about what you are learning, the themes that are emerging, patterns that may be present, connections between pieces of data, adding ideas, and thoughts that pop up" (p. 87). I took this as an invitation to "prospect/mine" the data for themes and meanings in what was a large "ore-body" of findings.

The richness of the data, having multiple sources and being extensive in nature, required an organizing structure for the analysis. In Chapter IV data were organized around four research questions comprising the empirical dimensions of the study; reflection on analysis followed the same structure.

Generic management activities of middle managers

This study included a job analysis. Traditional needs assessments (Kaufman, 1979; Nadler, 1982; Macdonald, 1982; Geroy, 1989; and Smith and Dubois, 1993) use a selected sample of "ideal" or "expert" job incumbents to inform assessors of the specific tasks job incumbents performed in their daily work. The resultant job analysis created the ideal against which employees' performance can be compared and gaps between current performance and the ideal were determined. As Mager (1992) pointed out, the performance gap may or may not suggest a training need.

Creating an archetypical middle manager seemed at odds with recent writing (Marsick, 1987a; and Watkins, 1991) about human resource development activities that encompassed more holistic perspectives. The archetype model involved the conceptualization of the ideal middle manager. In so doing, human foibles, idiosyncrasies, strengths and weaknesses, and changing work environments had to be ignored.

Embedded in the notion of the archetype is an assumption that through training and development this ideal could be achieved. A danger of this approach is that it "disconnects" the learner from the process of assessing needs and goal-setting because the external assessor is deciding what is relevant for perfect performance. It seemed deterministic. Monette's (1979) criticism seemed applicable: "The interaction of persons is viewed as a means to an end; the predetermined 'product' of education is given precedence over the people and personal relations involved" (p. 91).

This needs assessment did not follow a traditional model using a selected sample of experts/"top" performers. The nominal group technique (NGT) permitted participation by a large number of representatives from the population in the study. This technique resulted in *actual* rather than ideal statements about the nature of generic management activities in the corporation. The product, a list of generic management activities, came from middle managers themselves not from the training department or an outside consultant.

The use of the NGT produced a greater sense of ownership in the assessment process to a greater extent than what might have been achieved using a panel of "top" performers. On reflection, I observed that participation was increased, but I had little evidence that this participation directly resulted in a greater sense of ownership. The project team had expressed concern that previous survey questionnaires and other events designed to elicit responses from the middle management group had met with low response rates. In this study, only 27 of a possible 72 middle managers participated (37.5%) in the large group sessions (using NGT) that constructed the list of generic management activities. Fortunately, those in attendance represented all but two of the functional management units in the company. A more favourable response rate was achieved from the questionnaire (77.9%). Perhaps interest increased as the project progressed. However, the NGT method, I believe, increased the potential for greater ownership of the needs assessment project. The NGT did not have the elitism associated with a panel of expert workers. Further, the manner of operation of the NGT permitted contributions from all participants. These factors increased the potential for a sense of ownership to develop in the needs assessment process.

Senior managers seemed to adopt a measure of ownership in the project and expressed ongoing interest in the project at their regular management meetings. They wanted to be updated as the project progressed, and informally indicated their approval of how the project was conceived and conducted. I took senior management interest as a sign that the project report would not be "left on a shelf" as I suspected was the case with some other needs assessment reports.

I expected senior managers to have had a much clearer perception of the generic management activities of middle managers because a) senior managers supervised middle managers, and b) many senior managers came through the ranks of the company and would be familiar with the role of middle managers. Senior managers' interview responses when asked what were the generic management activities of middle managers had a distinct prescriptive rather than descriptive tone. In reviewing the performance review documents completed by senior managers on middle managers who reported to them, I noted a lack of specificity in defining middle management activities and observed global comments regarding training and development needs. My reflection was that senior managers' role may have been circumscribed by command and control; perhaps they saw their jobs as directing and deciding. If this was so, the potential for the company evolving to a more collaborative, team-based management culture seemed limited. Watkin's (1989) notion of greater emphasis on interpersonal helping skills, and Marsick's (1987a) model which sought to empower workers throughout the organization may have limited applicability.

I thought that beginning with the job analysis was crucial since this information was not available from other sources. The performance reviews of middle managers by their supervisors were not consistent in terms of the areas of the job being assessed, and neither did the reviews contain sufficient detail to permit the kind of analysis this study sought. Job descriptions used for recruitment and reclassification purposes were considered too global to be of use, and often they were notoriously out of date.

There was a temptation to use or adapt an existing list of generic management activities such as found in the Macdonald (1982) AT&T studies or Hughes' (1993) development and validation of an instrument for assessing management development needs. The attraction to not "reinvent the wheel" was, upon reflection, counter to the very intent of the study to produce a collaborative needs assessment. Further, a prefabricated list seemed inadequate for capturing the distinct meanings and phrases of *this* group of middle managers in *this* organization at *this* time.

The generic management activities developed by this study accurately reflected the work of middle managers. The validation of the questionnaire constructed from the list of generic management activities was taken as confirmatory that the generic dimensions of the job had been captured. Nonetheless, I was left to contemplate Cross' (1979) criticism that "needs assessments are necessarily based on the current perceptions and understandings of the respondents. They are better at telling what is than what might be" (p. 11).

What was the worth of a list of current activities when there was considerable evidence suggesting that these activities were likely to change? Essentially, a starting point was needed. Once an understanding of current work activities was achieved, the study could inquire about needs related to current performance and anticipated developments.

The process of determining current generic management activities served an additional purpose similar to that identified by Nowlen (1988): "Prescriptive and often romantic myths about professional life are harder to sustain after persons have inventoried the situation-to-situation tasks that are the content of a week or month at the office, hospital, school, or engineering firm" (p. 214). Nowlen (1988) emphasized the worth inherent in the process of task analysis as well as the end product.

One of my romantic myths about the job of middle managers was challenged by the list of generic management activities. I initially saw the job of middle managers as very much a "people job" requiring that the goals and objectives of the unit were achieved through the people in that unit. I idealized the middle manager as communicator, facilitator, advocate on behalf of the team, and a link to and interpreter for senior management. While some of these people skills were captured by the generic managment list, there seemed to be a greater emphasis on programmatic and administrative skill categories. I concluded that middle managers saw themselves, and were seen by others, to be chiefly responsible for the management of work, not the management of people.

I considered historical influences that shaped how middle managers perceived their management roles. Most middle managers had held a middle management position for five years or more. Most appeared to be older than 45, and only 10 were female. I characterized the middle management population as stable and generalized that they held traditional conceptualizations of management. Added to this was the recent history of the corporation which had moved from being a wholly owned and managed municipal utility to being operated by an independent board of directors. However, many of the organizational structures, policies, and management systems continued unchanged from those earlier days. The corporation was influenced by its bureaucratic past.

The generic management activities of middle managers in the corporation had been clearly defined as a result of this study. A significant benefit to the organization was achieved -- there was specificity about the middle management job. This could benefit not only training and development functions, but recruitment and selection processes, performance assessment, and workforce planning as well. Denis and Austin (1992) developed a behaviour-based job analysis model which addressed these various associated human resources practices. While this study did not entail the dimensions of standards and conditions fundamental to Denis and Austin's (1992) model, it did provide a precise description of the job. Future job studies in the corporation could easily attach standards and conditions to the job descriptions, thereby creating a multi-purpose job data-base.

Training and development needs of middle managers

Data from the questionnaire administered to middle managers identified the training and development needs of middle managers. Descriptive statistics and quadrant analyses revealed that staff development and change management were the generic management activities in which middle managers had greatest training and development needs (as rated by themselves, and by their senior managers). Additional important needs found were quality improvement (as rated by middle managers) and planning (as rated by senior managers).

Several themes emerged from the data: the data were consistent, identified needs seemed to cluster, findings pointed to change as a dominant theme, and none of the training and development needs appeared to predominate over others.

Consistency of data. Comparison of results from middle managers and senior managers showed a considerable degree of congruence in how each group rated the training and development needs of middle managers. Not only did they share similar perceptions of training needs (as suggested by categories they rated as areas of greatest need), they also agreed as to lower training needs (as suggested by categories they rated as areas of least need). Further, there was consistency between analyses. Both descriptive statistical analyses and quadrant analyses for senior and middle managers found that staff development and change management were greatest need categories.

I had to revise my earlier observation that senior managers appeared to have unspecified awareness of generic management activities of middle managers with this finding that middle and senior managers shared very similar perceptions of middle managers' needs. Based upon the wording of the research question: "Given a list of generic management activities...," I concluded that because the job analysis had been completed, managers could focus on rating importance and proficiency dimensions of the categories.

The questionnaire imposed a linguistic and conceptual structure on both groups. Given that structure, both groups held similar perceptions of the phenomenon under study.

Clustering of need categories. I perceived training and development needs of staff development and change management as closely linked. I also considered that quality improvement (a need identified by middle managers) and planning (identified by senior managers) related closely to one another and also to staff development and change management.

The key indicators (defining characteristics) for change management were: "identify opportunities, keep track of industry/business/technological changes, act as a catalyst for implementing and creating change, manage change process, apply business approaches/strategies (e.g., acquisitions, mergers, alliances, partnerships), participate/facilitate cultural change." This definition of change management included elements of planning and quality improvement.

The key indicators for staff development were: "facilitate individual/area development plans, complete staff development analyses, use coaching techniques, plan and implement training for staff, develop self, use career development strategies, provide staff with tools required (equipment, training, resources), evaluate development progress." Elements of planning and quality improvement appeared in this definition. I also related the notion that staff development had as its intent the facilitation of workers to deal with change. Staff development was fundamental to change management.

No predominant training and development need. Descriptive statistical analysis, yielded no statistically significant differences in the mean scores of the 11 generic management activities. In the quadrant analysis, staff development and change management T-scores were plotted in the high importance/low proficiency quadrant as less than one standard deviation below the norm on proficiency, and near the norm for importance. While these data indicated that staff development and change management were expressed as areas for training and development, these needs did not predominate. In other words, no category of generic management activity appeared to stand out strongly in terms of need. Areas of need (high importance, low proficiency) were close to the norm, suggesting that they were only mildly indicative of training and development need.

Change as a dominant theme. The cluster of identified needs suggested that change was a dominant theme. Interviews with senior managers and in large group sessions identified changes in the next 3 to 5 years that would affect the job of middle managers. Analysis of interview data showed that senior managers considered increasing industry competition, technological change and change in the internal environment to be the most significant changes faced by middle managers.

In my contacts with various informants I sensed an unease about the future. A short time prior to commencing this study, a large provincial telecommunications corporation had somewhat ruthlessly downsized its workforce (chiefly in the supervisory and middle management ranks). I concluded that the subjects of this study were "looking over their shoulders" wondering if they might face a similar future. Some of my informal contacts (e.g., at coffee breaks) often had a "gallows humour" about them. It should be noted that upper management at the vice-president level had reassured staff that there were no anticipated lay-offs "for the foreseeable future." However, it seemed that this reassurance was not fully accepted by middle managers.

I reflected that the nature of the corporation's business, telecommunications, reinforced the notion of change. Rapid technological advances, expanding and changing customer requirements, and development of the information superhighway, all produced a corporate culture in which change was anticipated.

Here was a group of middle managers concerned about their future employment, facing internal and external environmental shifts, having to adapt from being civic employees to being part of an entrepreneurial corporation, facing increased demands on their time, and expected to get more profits and innovation from their unit staff. It was not surprising that change management and staff development emerged as need areas, albeit not strongly so. Marsick (1987a) made a germane point:

> The learning involved in this kind of change cannot be reduced to the individual acquisition of yet another set of technical skills, which is the focus of many behavioral training models. Many of today's learning problems are embedded in the complex personal, social, and organizational habits that cannot be solved primarily by preconceived technical solutions. Skills are still needed, but they are only part of a process that includes an examination of these habits as well as consensual agreements about the nature of the problem and the way in which people should work together to solve it. (p. 4)

As will be seen in the next section, Marsick's (1987a) call for consensual agreements and people working together to meet their needs for dealing with change may be difficult to achieve in this environment.

Preferred formats for meeting training and development needs

Answers to this question came chiefly from responses to an open-ended question in the questionnaire, although segments of large group sessions, and interview inquiries with senior managers addressed the question. Documents were also consulted.

I was disappointed by the limited expressed interest in group learning, job exchange, project-based learning, and other interactive or experiential methods which might have facilitated middle managers to learn and develop in a rapidly changing/evolving work milieu. Clearly they preferred modes of instruction which Monette (1979) had criticized as a "production-line model of program planning" (p. 91), which Marsick (1987a) deemed behaviouristic, and which Welton (1991) noted were shrouded in Tayloristic scientific management, often anti-feminine in nature (p. 19).

Cross' (1979) remarks that needs assessments were better at indicating "what is" than "what could be" were recalled. I considered that middle managers preferences for formal, prescriptive learning suggested that was what they knew, whereas, they may have been unaware of alternatives. I also reflected about who was being disappointed? This served as an example of how my value judgments could have influenced the process and outcomes of the project. I was infiltrating my values as to how middle managers could best meet their training and development needs to cope with change. Elias and Merriam (1980) observed:

> It is obvious that the matrix of values to which the educator subscribes is critical. It is the basis of what he believes to be important that he will begin to assess and ascribe 'needs' within the area for which he is responsible.... infiltrating his own views about what is educationally relevant and important. (p. 40)

What could be, as Cross (1979) termed it, is not within the purview of needs assessment; neither should it be ascribed by the needs assessor.

Elements likely to influence training and development needs

The organizational environment was characterized by change. As discussed previously, the turbulence in the environment lead directly to expressed needs in areas of staff development and change management.

Open-ended questions inquiring about factors hindering or helping middle managers meet their training and development needs produced divergent results. Some middle managers thought that training funding was inadequate, while others thought it was adequate. Some perceived lack of information about training to hinder them, while others reported that sufficient information was available.

From informal information I postulated that senior managers held divergent opinions and interests in staff development. At least one senior manager refused to authorize training and development requests from his middle managers, while other senior managers were perceived to use the authorizations to reward performance (perks), and still others took an active interest in training and development. This differential use of power by senior managers was likely reflected in the perceptions held by middle managers about training and development.

An associated postulation was that the survey of training and development needs may have acted as either a catalyst or repository for reactions and feelings generated by other factors in the organizational environment. Did middle managers use the needs assessment as an opportunity to vent their feelings regarding other frustrations (e.g., lack of opportunity for career advancement or small pay increases)? Again, reactions would vary from unit to unit, depending upon the organizational subcultures.

I also had the impression that middle managers viewed management initiatives with some cynicism. One of the more frequently heard expressions in this regard was that a program was the "flavour of the month." This implied that programs, especially those involving training and development, came to prominence and then were quickly replaced by the next program. Some of these initiatives during the period of my contact with the corporation included total quality management, re-engineering, and the learning organization. The "flavour of the month" label was suggestive of a lack commitment to a clear training and development agenda by both senior and middle managers, and a pessimism about these initiatives, generally -- what I saw as "corporate thrashing about."

The divergent perceptions about organizational elements affecting the training and development needs of middle managers possibly reflected senior managers' varying leadership styles and differing emphases they placed on learning. Based on interviews with senior managers, my impression was of divergence in the senior ranks with regard to this issue. Their comments ranged from what seemed to be begrudging, to highly supp ~tive of training and development.

I considered some of the issues identified in the Management Training Plan (1991) to be indicative of organizational elements influencing training and development:

1) Creating a lifelong learning community. Training and development specialists in the corporation noted that with rapidly changing technology and work demands, specific skills quickly became outdated, resulting in a need for continuous learning. This statement appeared to indicate that company training specialists realized managers needed ways of managing change and providing mechanisms for continuous learning in the workplace. While there was a recognition of the need for continuous learning, I did not encounter indicators that this need was being addressed. The array of scheduled course offerings did not seem to be a substantive response to the problem.

2) Managers' training and development responsibility. The Management Training Plan (1991) indicated increased demands for managers to assume responsibility for training and development of their staff. It appeared that middle managers got the message that they were to assume training and development responsibilities, but they clearly expressed the need for further preparation to meet those responsibilities; they needed staff development expertise.

3) Transfer of training to the workplace. The need for more expertise in staff development was also reflected in the document's notation of a need for greater transfer of training to the workplace. Middle managers may have felt that they lacked sufficient expertise to promote the transfer of training from the classroom to the work setting.

Summary. This reflection on analysis was structured by the four empirical research questions of the study. I suggested possible explanations of these themes and connections in the data. I concluded that the four research questions had been fully answered.

Reflections on Method

Reflection on method centered on the efficacy of strategies and procedures employed in the study, how the methodology might have been improved, and the rapport between various participants and the researcher. "How well did my methods work?" was a core question that guided my reflection.

Process

Particularly in the preliminary phase of the project, I wished I had more experience as a consultant/researcher. I had difficulty responding to the negotiations over contract fees, the parameters of the project, and establishing realistic time-lines. I was unfamiliar with what the training manager referred to as "deliverables." My <u>post facto</u> rationalization was that my shaky beginning serendipitously aided the collaborative aspect of the project. I suspected that the project team recognized my uncertainty, and consciously or unconsciously, remained more involved in the design and execution of the project than if I had been a fully-fledged and experienced consultant. I appreciated the team's input and support.

My reflection on this initial phase was that it was crucial because subsequent tactics and procedures were greatly affected by it. In hindsight, I recognize that I was weak in establishing my credibility and asserting the research agenda. I needed more tactics to assess the organizational environment so that the project would clearly meet the organization's expectations as well as my own. Despite the tentative beginning, scanning corporate documents and establishing positive working relations with the project team helped me gain an orientation to the organization.

Shortly after the project began, I found it necessary to review the overall purposes and reasons the corporation had in pursuing a needs assessment because I felt an expectation that I would quickly proceed to develop an action plan for the design and conduct of the project without further input from corporate personnel. This was at odds with my intentions to evolve a collaborative needs assessment. A re-examination of the purposes of the study re-engaged the team and helped move the design phase forward. This reclarification of goals and objectives showed that "ownership" of the project by the participants was an important consideration for the training and development staff. This procedure also helped me become aware of some of the political motivations involved in commissioning the project: a needs assessment had been set as part of the annual plan for the training facility; a needs assessment of middle managers could synchronize with initiatives then underway to ascertain performance and compensation standards for senior management; and a needs assessment might uncover the extent to which middle managers were dissatisfied with current staff development courses and institutes.

Block (1991) noted that a frequent error made by consultants was in spending insufficient time on the initial phases of a project and moving too quickly to implementing an action plan. Overlooking the initial phase required the training professional to have a clear understanding of the problem and the prescribed solution. Block (1991) pointed out that if this assumption was incorrect, both the organization and the consultant lost -- the organization wasted valuable resources, and the consultant lost credibility. Beyond this, the problem was likely to persist after the training had been completed. Block (1991) argued that clarity about the nature of the consultation relationship was fundamental to the success of a project/ contract. I heeded Block's (1991) advice as I moved through the beginning phases of this project.

The data collection process worked well. Nonetheless, I thought that more than 1/2 hour should have been scheduled for each senior manager interview. While the interview schedule offered a needed structure, perhaps a more open, wide-ranging discussion might have yielded a richer sense of the management culture. Perhaps fewer, but more in-depth interviews would have produced this kind of information. Borg and Gall (1989) noted the relative value of using supervisory ratings: it is unlikely that rater bias can be controlled; the rater has already formed an opinion of his or her subordinates prior to the time inquiries are made; and frequently, a "halo effect" operates in this type of evaluation. "In many cases, however, the behaviour of the individual as seen through the eyes of the supervisor, although different perhaps from the objective behaviour of the individual, still has an important meaning in educational research" (Borg and Gall, 1989, p. 517).

After conducting the interviews, an unanticipated interruption developed in the time-line of the project because the key project team members took a month's vacation. They had the contact lists, and the technical resources required to initiate the large group sessions. I was concerned that this interruption would reflect negatively on my credibility to lead the project. As it later turned out, I need not have been concerned. The interruption was not perceived to be a problem to the corporation or their expectations of me.

The nominal group technique (NGT) process was very efficient. It evoked a high level of involvement, generating a large volume of response items. Facilitation of the process was straightforward. The inclusion of a sample of line managers was intended to add to the multidimensionality of the study. In hindsight, however, I was not convinced that their contributions added significantly to the data. Their responses were included with responses from middle managers because there were no apparent differences.

The questionnaire construction followed a principle recommended by such writers as Gay (1992) and Zemke and Kramlinger (1982) that survey questionnaires should be kept as simple as possible. For this reason, and because it had been used to assess management training and development needs, I chose to adapt Nowack's (1991) questionnaire. I liked his methodology of establishing a quantitative expression of training need by multiplying mean importance ratings times mean proficiency ratings. Perhaps there were design flaws, but the addition of open-ended questions, provided important qualitative information.

I appreciated the communications technology available to the project team (voice mail, E-mail, facsimile transmission). It facilitated contacts with participants and enhanced follow-up with those middle managers who had not attended initial sessions set for administration of the questionnaire.

I was grateful that a person from the training department was available to hand-deliver questionnaires to senior managers. The personal contact probably resulted in the high return rate (16 of 18). It also meant that I did not have to spend time locating offices in an unfamiliar headquarters; another unplanned collaboration.

The person who delivered questionnaires also fulfilled another function; from time to time he acted as an informed member of the organization whom I could turn to for help in understanding the organizational culture. In future studies I would strengthen this role, as recommended by Schein (1985) who located a motivated insider to help him clarify findings and observations. In Schein's (1985) organizational culture studies, "It turned out that some of the internal consultants and some of the people in the training department themselves wanted to discuss my observations with me, so they provided a natural vehicle for further deciphering" (pp. 114-115).

My contract with the corporation required that I produce a number of interim reports and a final report. The careful scrutiny and suggested editorial changes made by the training director seemed curious to me. I observed the director was extremely vigilant that no criticism would be made of senior management in these reports. He was also concerned about some of my interpretations in the reports. For example, he objected to reporting the results of open-ended questions as respondents' "perceptions" because he felt that would be considered subjective rather than factual. I realized that this epitomized the authoritarian nature of the management structure. On another occasion, I was asked to review data which showed that several respondents remarked that there was no clear training policy. The message was, "Don't let it be known that there are real or implied criticisms of senior managers." These examples seemed to point to a management environment in which efforts to empower middle managers would be strongly resisted. And yet I fervently believed that such empowerment was necessary for middle managers to be effective in managing change and creating learning opportunities for staff to respond to the need for innovation which sought to go beyond the production-line model of programmed learning.

This reflection also caused me to rethink my earlier observations about senior managers' interest in the project. Was their interest motivated by a desire to discover the training and development needs of middle managers, or were they concerned about controlling outcomes? Did they want to create a supportive environment and opportunities for middle managers to perform more effectively (as Mager, 1993, recommended), or was this project to be seen as confirmatory of their self-images as successful senior managers? If it was the latter, my collaborative needs assessment project was "planted in stony ground."

I began to doubt that this study would significantly impact workplace learning for middle managers. This confirmed that I was an outside consultant; I was not responsible for changing the environment/culture of the organization. As Block (1991) pointed out, consultants are often tempted to become involved in decision-making and managing. However, if they succumb to the temptation, they are assuming a manager's responsibility and operating outside their consultant role. As Block (1991) put it, if you want to manage, become a manager!

Rapport with participants and project team

I evaluated the nature of my relationships with three respondent groups: 1) informants (middle managers, senior managers, and line managers); 2) focus group members; and 3) project team members (two management training consultants, the training manager, and a training consultant indirectly connected to the project). In this section I reflect on these relationships from my perspective. Later, I report on comments of the project team, including feedback to my reflections.

I considered myself to be an effective facilitator. My skills seemed to ensure that the large group sessions, interviews, and focus group meetings met their objectives. I felt I presented instructions clearly, set a friendly climate, and adequately explained the nature of the project. Participants remained involved throughout the various sessions and cooperated in a spirit of active participation. I considered myself to be a credible researcher by establishing a climate devoted to exploration and inquiry. I thought that the rapport established with informants and focus group members was appropriate for the tasks involved. While I didn't characterize respondents as vigorous in their attachment to the project, some did demonstrate, in the words of C. O. Houle (1980), "a zest for learning" (p. 124).

My interviews with senior managers may have been affected by the presence of a management training consultant who accompanied me to the interviews and introduced me to the interviewees. If I were to conduct semi-structured interviews in other needs assessment projects, I would request the consultant to withdraw following the introductions. I wondered if senior managers were constrained by the presence of an employee during the interview? This is not a criticism of the employee, but of the potential effect that his presence may have created.

Regardless, I believe I accomplished the recommendations made by Gay (1992) that time should be spent establishing rapport and getting the interview "off on the right foot."

Project team members were my "life-line." Their enthusiasm and support was unconditional throughout the project. Suggestions, feedback, and availability aided me greatly in conducting the research. I found them willing to discuss design issues, and they seemed eager to learn from me. These qualities indicated to me that a collaborative relationship existed. In looking back at my relationship with the project team, I regret that I did not "push" the relationship further. I missed an opportunity to develop the project along action research lines, engaging the project team as co-researchers by working with them to synergize training and development forays into emancipatory and/or participatory paradigms.

My failure to pursue collaboration opportunities more fully seemed related to the grounding of the contract in pragmatic, instrumental "deliverables." I had forsaken my desire for a new approach to assess training and development needs because of immediate and practical anxieties to secure a research site. The Scottish adage, "He who pays the piper calls the tune" was another ingredient in the relationship.

Clearly, my role in the organization was that of a contracted consultant hired to produce an assessment of the training needs of middle managers in the corporation. This role meant that expectations for me, and which I had initially accepted, were to conduct the assessment along traditional, behavioristic lines (i.e., quantitative data generated by a questionnaire). I saw my role as the needs assessment expert, requiring that I assume responsibility for producing the required "deliverables." Had I been an employee of the corporation, or located on-site throughout the project, I believe my ability to influence the team to think in more collaborative terms would have been considerably enhanced.

I took responsibility for not advancing my action objectives with greater certitude. My immediate needs (for a site and for financial support) took precedence over long-term objectives to demonstrate a reconceptualization of the training needs assessment process promoting a collaborative model of needs assessment. In a sense, I was "hoisted on my own petard," espousing critiques of traditional approaches, yet relenting to some of these approaches for reasons of expediency. It remained a matter of speculation if the rapport I enjoyed with the project team would have sustained a more radical approach. Although my reading of the organizational elements suggested that the project had to respond to behaviouristic expectations, the team's desire that middle managers have ownership of the assessment process convinced me that collaborative techniques could have been more fully adopted. I never resolved the dilemma.

Reflections on Ethical Concerns

In collecting responses to the survey questionnaire an ethical issue arose. Open-ended question #2 had been inserted at the request of the management training consultants which asked respondents to identify area-specific or technical training needs. The consultants wanted respondents individually identified so they could follow-up with interventions to meet the specific needs of middle managers. Identification of individual respondents was contrary to the ethical standards set for the study, and contradicted the instructions which accompanied the questionnaire. I was concerned that violating the assurances of confidentiality would discredit the study; however, I realized that the training consultants' request for specific information could be helpful to the corporation.

I resolved the dilemma by numbering each questionnaire and having respondents write their name and questionnaire number on a separate sheet. The list of names and numbers was given to the consultants. At the time of administering the questionnaire I was careful to explain to respondents that tracking them individually related to the interest of the consultants to respond to needs identified in open-ended question #2, and that the code numbers would not be known to me. Respondents were given the opportunity to withdraw if this arrangement was unsatisfactory to them. I maintained control of the questionnaires and the data. I separately recorded responses to item #2 by respondent number and provided only this information to the consultants of the corporation.

I believed that confidentiality must be maintained and must be seen to be maintained. Technically, I was able to meet the standards of confidentiality, however, I remained concerned that confidentiality may not have been seen to have been met. I regretted that the request to identify individual responses to question #2 had not been determined at an earlier point; the question could have been placed on a separate piece of paper with separate instructions.

There remained the dilemma of nurturing self-directed, empowered adults in a setting of mandated training. Continuing education in the workplace must somehow accommodate the employer's ultimate aim in supporting job-related education to realize greater organizational effectiveness. Argyris (1964) noted a "basic dilemma between the needs of the individuals aspiring for psychological success and self-esteem and the demands of the pyramidal structure" (p. 58). Likewise, Collins (1989) wrote, "For the most part, the literature on needs assessment does not begin to address the issue of power relationships that such questions evoke" (p. 87). I felt a two-way pull between the adult education principle of facilitating self-directed empowered learners and responsibility to the employer. Learners' needs and employers' needs may not be synchronous. Further, by seeking to facilitate empowerment, I could potentially antagonize senior managers at the top of the "pyramidal structure" who ultimately endorse training and development offerings.

While I found Collins' (1989) critical examination of the practice of needs assessment to be cogent, he offered no more than platitudinous socio-politically correct generalizations as to how to proceed out of the dilemma. For example, Collins' (1989) best advice was:

> Even though true needs cannot be identified by merely asking people what they want, it is not the role of adult educators to make the actual distinctions on behalf of others. Rather, their task is to organize pedagogical situations where it becomes possible to understand more clearly how needs are constituted -- whose interests are served -- and in what ways they emerge in the context of their everyday lives. (p.95)

"To organize pedagogical situations" would, I suspect, not be entertained by many managers of training and development, and would receive no consideration in the corporate boardroom. It was not readily apparent that organizing pedagogical situations would satisfy the mandated objectives of workplace training.

Collins' (1989) critical perspective did not rescue me from my dilemma of adult education facilitation principles confronting the hard reality of learning in the workplace. He recommended:

> We would do well to entirely remove formal needs assessment design approaches and their distorting effects from the arena of contemporary adult education practice... To free thought from constraints that shape a taken-for-granted institutionalized reality becomes a pressing challenge for contemporary adult education practice. The challenge is met through purposeful experiments with pedagogical strategies to create contexts for free and open discussion where genuine interests can be identified. (pp. 94-95)

I disagreed with removing needs assessment from adult education practice because to do so would mean removal of adult educators from the arena of workplace learning.

Demetrion (1993) wrote a reflective article in the context of participatory literacy education which addressed the identical values conflict I had encountered:

> While viewing the participatory ethos as inherently desirable, [there is] the problematic nature of implementing a model when neither the learners, the culture of the program itself, nor the sociocultural forces that influence it are strongly grounded in a participatory democratic ethic. Pragmatic strategies are required, then, that come to terms with current constraints while exploring new opportunities for creative growth. Such a process often requires vigorous staff leadership not over and against the needs and interests of learner participants, but in accordance with them. Participatory efforts may best be realized when they are integrated within such contexts rather than imposed from above as an ideal construct. (p.27)

Demetrion (1993) and his workers sought to implement "learner 'active control' of major program dimensions" (p. 40) largely in keeping with the pedagogy of Paulo Freire (1970). Learners, however, were more concerned with pragmatic issues related to the acquisition of skills and economic advancement.

Demetrion (1993) recognized that his program was also centred in the conservative milieu of urban America where radical notions of empowerment were not part of the everyday lives of the learners. He found that strong leadership which encompassed the participatory ethic, but which remained focused on meeting learner needs provided the best solution:

> ...it would require sustained energies among volunteer constituencies to assume consistent responsibility for the program. In my view, progress toward such an outcome would best serve the interests of the Center's learners, if it evolved out of a quest to insure programming that satisfied their needs, interests and aspirations for literacy learning. This makes more sense than imposing a participatory ideology on learners whether or not they desire or are capable, according to *their own judgment* of managing it. (p.42)

Demetrion (1993) determined that a balanced relationship between executive leadership of staff and tutors and, however limited, the desires among learners to participate in ways that were meaningful for them assured that "participatory literacy education may become increasingly incorporated into [the program's] operation in ways that authentically grapple with the creative tensions between the legacies of the past and the vistas of a future that perpetually await creation" (p. 48).

Demetrion's (1993) observations paralleled the circumstances of my study. Like literacy learners, middle managers in a conservative sociocultural environment with a history of positivistic training experiences sought learning experiences that fostered the continuation of those traditional values (formal, learning for credit experiences) and tended to focus on pragmatic objectives. Like the literacy tutors, the training and development consultants and I held desires that the needs assessment process be more participatory.

Demetrion's (1993) perspective was grounded in providing strong leadership to the program (to both learners and staff) which remained constant in meeting the expressed and immediate needs of the learners. He saw that movement towards participatory ideals could only be sustained over the long term. Several features of Demetrion's (1993) approach were not present in this study. First, I was an outside consultant to the assessment. Second, the notion of participatory education was less evident in the training consultants' approach than in Demetrion's (1993) staff. Third, there was no evidence that the senior management embraced participatory processes, whereas Demetrion (1993), as director of the literacy centre, clearly influenced the program towards participatory action. Nonetheless, I was strongly encouraged by the model Demetrion (1993) posed. By focusing on the needs of learners, and purposively looking for opportunities to move towards increased participation, a broader vision could be achieved.

Reflections on the Researcher's Frame of Mind

Surfacing the assumptions, beliefs and biases held by the researcher can lead to new insights according to Bogdan and Biklen (1993). Reflection of these subjective influences in the research process can help to control the researcher's effect on observation and interpretation of data, while at the same time, consider the researcher as part of the project.

As indicated earlier, I struggled with bifurcation of my values and assumptions as this study progressed. The duality of my thinking occurred between valuing pragmatic practice and humanistic theoretical approaches. While I hoped that my experiences and research would contribute practical knowledge to the needs assessment endeavour, I also hoped that I could demonstrate innovative ways in which holistic, empowering experiences could be wrought in workplace learning. In developing and conducting this study, I had not anticipated such a conflict in my values.

A straightforward needs assessment project was appealing because it was practical (i.e., contributing to practice), and readily achievable, but my reading (Marsick, 1987a, 1987b; Senge, 1990; and Block, 1993;) lead me to investigate the apparent paradigm shifts taking place in business and in theory-building related to workplace learning. Notions of empowerment, learning throughout the organization, and action research affirmed my own belief system which held that education *meant* change at individual, group, and organizational levels.

I had described this study as descriptive and reflective. In retrospect, the term "developmental" seemed more appropriate. The first four research questions were clearly imbedded in the empirical-descriptive category, relating to my wishes to contribute to improved practices in needs assessment, while the fifth question on reflection offered a qualitative exploration of the nature of workplace learning. It was the reflective aspect that contributed most to my development. Reflection, indeed, caused me to examine my assumptions about workplace learning, as well as those that underlie behaviouristic approaches. The "developmental" label was appropriate description of the learning I experienced; it also described the changes in my conceptualization of needs assessment models. My adaptation of the Geroy (1989) and Nadler (1982) models was subsequently influenced by my reflection. The earlier model represented my beginning thinking, solidly rooted in traditional paradigms. Reflection first lead to infatuation with critical thinkers such as Collins (1989), Welton (1991), and Davidson (1993). However, further reflection and re-integration of my own values lead me to question the radical perspective represented by these writers as idealistic and not particularly informing of practice.

A parallel could be drawn between my values' dilemma and the contradictory evidence found in the study. I saw that middle managers were bound by traditional concepts of management (directive, hierarchical) and traditional learning preferences (formal, instrumental). Yet they sensed that new approaches were needed (change management, staff development). I had started from a traditional concept of needs assessment, albeit including collaborative dimensions, yet I sensed the need for a new approach.

Reflection helped me to examine my assumptions and biases about senior management. My proletarian beliefs had easily led me to assume senior managers were interested in preserving their power and influence, and as responsible for the pyramidal power structure. My biases influenced how I viewed the organizational culture; bosses bossed, while those below them needed empowerment to be more effective in their lives and in their jobs. Davidson's (1993) notion that needs are socially constructed phenomena expanded my thinking and I began to understand that senior managers along with all the other members of the organization were part of the social structure. They likely faced issues similar to those of middle managers, namely, sensing the need for new paradigms of continuing education and management in the workplace, but unsure as to how those paradigms might be achieved. My ideas might have been resisted by them partly because they were new to them and partly because I was external to the organization.

In concluding this section reflecting on the researcher's frame of mind, I felt obliged to report a significant development which occurred after the data collection and analysis were completed. The event was happenstance, but it triggered a marked paradigm shift for me. About five months after the needs assessment project was formally concluded at the corporation, I met with the director of training and development on another matter. He took the opportunity to up-date me on implementation plans following from the needs assessment. He informed me that senior management had reviewed my reports, and in concert with the vice-president of human resources and himself, a decision had been made (as a priority) to initiate middle manager training in the area of financial management. I was dumbfounded! Change management and staff development had been identified as the most important needs to be addressed, not only by middle managers, but also by senior managers. Financial management was rated by both groups as an area of least importance. In fact, the quadrant analysis indicated that financial management was considered the very least important of all generic management activities by middle managers.

The director of training and development informed me that while the needs assessment had examined the needs of middle managers, "it had not considered the needs of the company." I found this to be a curious interpretation of the findings. How had the generic management training needs of middle managers become "inverted" in this way? Financial management was not seen as important by either group. Who determined what were the needs of the company if not senior managers and middle managers? Presumably, financial management was identified as a priority area by someone or a group with sufficient authority to contradict the findings based on the views of senior and middle managers. Somehow, the needs of the company were conceived as separate from the needs of the people comprising the company -- that the company was somehow a different entity from its people.

I reflected on this turn of events. What might be the plausible explanations of this development? I suspected that a vice-president had used the needs assessment to advance his own agenda -- financial management. Being at the highest echelons of the corporation, he was in a position to influence decision-making. Also, it might have been easier to develop a training program on financial management than on change management or staff development. Financial management was straightforward, in many ways a more objectifable subject area amenable to formal course presentation.

It was difficult for me to understand how validated needs assessment results, clearly within empirical/ quantitative methodologies preferred by the tradition-bound staff development officers, could be so utterly ignored. It was as if the executives of this company were saying, "We know what's needed here, not our middle managers, our senior managers, training and development consultants, or the researcher." I felt that the decision to pursue training in financial management abandoned any notion of middle manager ownership in the project. What a waste; a waste of resources (money and time) and a waste of human potentiality as the inevitable outcome could only be a staff who viewed with cynicism any future attempts to examine their development needs.

Monette (1979) recommended philosophizing in adult education as part of reflection related to needs assessment to "ground the field of adult education on a firmer rational basis than the scientific examination of 'what is' or the pragmatic assessment of 'what works.' It would provide the necessary base for responsible decision-making by practitioners concerning 'what should be'" (p. 93). My philosophizing about needs assessment resulted in two interconnected conclusions: 1) the term "needs assessment" is an oxymoron, and 2) determination of need is a social construction.

Needs assessment as an oxymoron. Assessment implies a instrumental, conscious act. It is something done to you, or that you do some other object (as in receiving a tax assessment, or assessing the value of an antique).

Assessment implies orderly procedure relying on information from a variety of sources. Need, however, is an internally sensed phenomenon. Monette (1979) wrote: "It becomes apparent that the concept of need has no meaning without a set of norms and that it is therefore impossible even to identify needs without them. Needs are not merely empirically determined facts; they are complex value judgments" (p. 84). Monette (1979) identified the inherent contradiction between scientific procedure and human value judgments:

> The point being made is that need assessment is basically a normative function. As such it is necessarily more than a scientific information-gathering procedure. No amount of scientifically derived information can yield a judgment about "what should be," because science deals not with normative considerations but with facts. As ethicists point out, it is a naturalistic fallacy to suppose that "what should be" can immediately be derived from "what is." That something exists does not mean that it is good, right or desirable. If the function of need assessment is to gather information about "what should be," it necessarily involves normative philosophical considerations. The reflective educator inquires not only about what is desired by the student, the educational institution, the society or himself, but also, about whether or not it is worthwhile, right and good. For inquiry of this kind, judgments beyond the technical are required, judgments involving the ethical and the political as well as the aesthetic. (p. 85)

From this perspective, "needs assessment" is as oxymoronic as "thunderous silence" or "natural plastic." I found it contradictory to think of subjective (Monette's, 1979, term is normative) expressions of <u>need</u>, and in the same instant as objective (scientific) <u>assessment</u>.

Needs assessment as a social construction. Collins (1989) and Davidson (1993), among others, argued that the determination of need is a social construction. Collins (1989) observed that needs assessments rarely consider the social and political contexts within which they occur. Davidson (1993) used constructionist theory as developed in the sociology of social problems to critique conventional perspectives on needs assessment:

> Needs, I argue are not discovered but made, and making them is the work of adult educators. This perspective does not deny needs per se but actually heightens their material existence by making their material nature more fully apparent by centering on historical memory and consciousness of the social conditions in which needs are identified. For needs to become thing-like requires a productive process, which is a fundamentally socio-historical accomplishment. (p. 131)

I considered Davidson's (1993) idea of the socio-historical context "constructing" need as a plausible explanation of how financial management became a priority need for middle managers at this telecommunications corporation. Such an explanation could not be realized within the technical/procedural dimensions of the project. It also reinforced for me that contextual (organizational) elements powerfully shaped life in the workplace. The determination of need was made by influential senior officials in the company based on their own socio-political agendas quite separate from any careful needs assessment. Davidson (1993) was right; needs are not discovered but made. This reflection produced awareness that my research was inevitably affected by value judgments; mine as well as others.

If needs assessments are complex value judgments parading as objective "fact," do adult educators have a legitimate role in the process? I believe that a role could be developed similar to that elaborated by Demetrion (1993) vis a vis participatory literacy education. Adult educators could contribute through their understanding of adults' learning needs and their dedication to learner-centeredness. I revisited my own values in this regard: 1) in order to accomplish objectives related to self-directedness and empowerment, collaboration between the assessor/researcher and the learners was required; 2) the needs assessment must accommodate the notion that the process is essentially a social construction occurring in the socio-political context of an organization; and 3) the adult educator should assume a facilitator role rather than "outside consultant/expert" in order to reinforce ownership of the assessment by participants. What was needed was a model of needs assessment that borrowed aspects of this study and applied more effective procedures for encompassing contextual dimensions.

I felt that Brookfield's (1986) critical incidents model could be adapted to meet these criteria. Instead of developing a needs assessment questionnaire, Brookfield (1986) aided participants in determining their work-related learning needs by having each of them write a paragraph describing a critical incident at work. He gave a sample of instructions for the exercise:

> Think back over the last six months and identify an incident you remember as one that caused you the greatest discomfort, pressure, or difficulty. Write down, in no more than half a page, the following details about the incident: (a) when and where it occurred; (b) who was involved (roles rather than personalities may be used here); and (c) what was so significant about the incident as to cause you problems. (p. 252)

Brookfield (1986) collected the paragraphs and analyzed them to compile an inventory of staff development needs. I would change this aspect of the critical incidents model because it appeared to promulgate the role of the outside consultant prescribing needs based on generated data. Perhaps a better approach would be to work with the participants in a group or groups to collectively analyze the critical incidents for emergent themes. My next step would be to arrange a joint meeting between senior managers (or a representative group) and participants where the results of the critical incidents' exercise could be presented and open negotiation of implementation plans could occur. Having parallel critical incident sessions with senior managers prior to the joint meeting might prepare them for the meeting.

In circumstances where there was no clear definition of job activities, use of the nominal group technique (NGT) could precede the critical incidents exercises. Doing so, could provide a clear job statement and would aid in preparing participants' thinking about critical incidents related to their job activities.

It appeared that Brookfield developed his model because of the shortcomings he experienced with traditional approaches: "I have found the most annoying feature of such exercises is the way in which outside 'experts' are brought in to identify *my* problems and then to suggest solutions *I* should undertake" (p. 254). I shared a similar view that this was the experience of most needs assessment participants.

An advantage of the critical incident model identified by Brookfield (1986) was, "Its importance lies in giving you as accurate a record as possible of the real concerns and feelings of your staff" (p. 252) which ensures that participants will remain involved in the process. I thought that Brookfield's (1986) rationale for his model was germane:

> In the guidelines proposed here, the staff who are to be the subjects of staff development play an active and participatory role in identifying concerns. The agenda and rationale for staff development efforts are made public, and staff are given several opportunities to suggest possible training activities and to comment on schemes proposed by trainers. The use of the critical incident exercise makes elaborate needs assessment procedures unnecessary and ensures that the time and money spent on staff development is cost effective. You will be devoting resources to deeply felt real needs and not falling into the trap of spending a great deal of time solving "problems" that *you* feel to be important as a staff developer but that are of little real significance to your staff. (p. 254)

Reflections on my state of mind while conducting the study could best be described as "sensing something was not right." This feeling was most directly related to the construction and administration of the survey questionnaire which, upon reflection, did not remain true to my aspirations for a collaborative needs assessment. In hindsight, I regret not being aware at that time of Brookfield's (1986) model. I believe that it offers opportunities to address participatory needs assessment and also recognizes the contextual constraints imposed by the workplace.

By experiencing what turned out to be another traditional-type needs assessment, at least I could speak with integrity about its shortcomings. The value of reflection was that it forced me to recognize those shortcomings and seek alternatives appropriate for the holistic management and learning paradigms developing in the workplace. As stated earlier, the study took on a "developmental" tone which signified my own learning. Perhaps the end product (a needs assessment) was less crucial than the process of my own development.

Reflections on Reflections

This section reports the project team's reflective comments regarding my reflections and findings. The purpose of the undertaking was not to develop further data per se, but to reconnect my reflections with the project and attempt a collaboration on reflection. It was also an informal validation of my reflections. Reflections on reflections was accomplished by means of a one-hour interview conducted with the management training consultants. Prior to the interview, a schedule of the topics was provided to the project team. The interview followed the same Bogdan and Biklen (1993) outline for reflections used to structure this chapter. The session was tape-recorded and notes were made from the recording.

Points of clarification. The interview confirmed my observations that the middle manager's role tended to be well-defined, that middle managers were, as a group, older, in their jobs for considerable time, had advanced through the organization, and preferred structured, formal learning events. The interview provided further confirmation that middle managers were reluctant to engage in new learning as a result of earlier company policies (no longer in effect) that rotated middle managers to different positions every six months or every year. Comments included, "Many are gun-shy. They were not provided with sufficient feedback or development to adjust to the rotations. Change is viewed as punishing."

Reflections on analysis and method. The reflective interview acknowledged the wide agreement in the findings of this study; similarities were attained from different perspectives.

The job analysis process using the nominal group technique was viewed as "an important event" which assured participation and involvement of middle managers. In terms of the data generated by the NGT sessions, it was remarked that "everything counts" and the result was that "it's their (the middle manager's) data." The job analysis process was considered effective and accurately described the generic functions of the job. It was remarked, "There were no surprises in terms of the job description." In exploration of senior manager's reactions to the job description, this session reported that they too concurred that the middle manager job had been accurately portrayed.

The development and administration of the questionnaire was seen to enhance ownership by middle managers of the needs assessment process. As a management training and development consultant put it, "I didn't expect their commitment to the process to be so high. Attendance was quite good. It was a smooth process." This consultant went on to say, "If I was to do this over, I think I would administer the questionnaire to the vice-presidents and president, as well as to those line managers who were involved in the data-gathering (NGT) sessions. The results would show significant differences in perceptions." It was also felt that the questionnaire results could form the basis for more detailed discussions with middle managers concerning program implications leading from the results.

In this interview I discussed my reflections that middle managers may not be aware of approaches to learning other than set, formal courses. The comment was made, "I'm not sure they know what they want." There was agreement with my comments that while middle managers were interested in learning about change (change management), their preferences for formal coursework mitigated against opportunities for effective learning on this topic. It appeared that resistance to change (and to learning) remained a part of the middle management culture in the corporation. It was related that there are few consequences either positive or negative relating to training and development activities. For many middle managers and their supervisors, the emphasis was placed on meeting corporate requirements that 10 days of training be taken within a three-year time frame. There was little regard for content suitability or reinforcement of learned skills and concepts back on the job. This was cynically referred to as "industrial tourism -- find me some place warm to go in the winter."

Ethical concerns and issues. In discussing the ethical concern regarding confidentiality and anonymity, no negative feedback had been received. Further, I was assured, that had a lack of trust developed between middle managers and this project, responses would have reflected this with many more "politically correct answers" than were detected in open-ended responses.

There was recognition of the concern I had expressed regarding collaboration and learner-centeredness versus mandated learning. An opinion was given that it will take time to influence traditional, hierarchical management and learning cultures evident in this corporation. Hope was expressed that management would become less inbred, and that alternative management/learning styles, such as mentoring, would become more prevalent.

Researcher's role. The interview confirmed that I had been effective in data collection and reporting. There was agreement that the initial clarification of expectations could have been more precisely handled. It was concluded that the project satisfactorily achieved its objectives.

The summary comments made at the end of this interview were:

> The process was unique -- never used before. Ownership of the needs assessment was emphasized. Ownership was key here; they (middle managers) are asking us to be partners in designing learning. We would like to see this continue.
>
> We are willing to partner again down the road, perhaps do a follow-up in a year. We are interested in more academic-business arrangements.
>
> Results were kind of what we expected. Middle managers are still looking for someone to tell them (what to learn). They are still in a we-they mentality.
>
> We got what we wanted from your consulting. Maybe

we can do it again.

The reflections on reflections session helped bring closure to the project for myself and also for the corporate representatives on the project team. We felt that the major objectives of the project (defining the middle manager job, determining generic management training needs, and establishing a collaborative assessment process) had been accomplished. We learned that needs assessment is affected by corporate culture, and that movement towards greater collaboration and learner-directed determination of need will be an incremental, long-term process. I feel that this project helped move the corporation in that direction.

Summary

This chapter used Bogdan and Biklen's (1993) schema for reflection and included references to the literature critiquing needs assessments.

Training and development needs assessments were distinguished from social/educational needs assessments. The role of the middle manager in the corporation was discussed, and Brookfield's (1986) concept of a critical incidents needs assessment was differentiated from Nadler's (1982) critical events model.

Reflections on analysis first considered generic management activities, and determined that a traditional approach which established an archetypical example of the manager was insufficient. The use of the NGT was seen as leading to a fuller and less prescriptive description of the generic management activities of middle managers. The necessity of undertaking the job analysis was discussed.

The second aspect of reflections on analysis focused on the determination of training needs, while the third dealt with preferred learning formats. In the final section, elements in the organizational environment influencing training needs were discussed.

Reflections on method started with an examination of the process of needs assessment employed in the study. The rapport of the researcher with the project team, the participants, and the organization was next considered.

Reflections on ethical concerns included discussion of an ethical issue regarding identification of respondents. This section also included critical reflections concerning facilitation of self-directed empowered learners in an environment where learning was mandated.

Reflections on the researcher's frame of mind uncovered assumptions held by the researcher which shaped or biased the study. An alternative model for collaborative needs assessment was discussed.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Introduction

This chapter contains the summary, conclusions and implications of the study. The summary includes an overview of the purpose of the study, the conceptual framework, and methodology. Findings are summarized in relation to the four empirical research questions that guided the study. Conclusions from the findings are drawn in the form of generalizations about training and development needs of middle managers. The implications are chiefly drawn from the reflections about the study, including a number of insights about the nature of the needs assessment process and recommendations for adult education practice and further research.

Summary of the Study

This section offers a review of the purpose of the study, its conceptual framework, methodology, data collection and analysis, and the findings.

Purpose of the study

Quantitative and qualitative approaches were utilized. First, qualitative methods were used to determine the training and development needs of a cohort of middle managers in a specified corporation. Second, a qualitative employed reflection to examine collaborative processes of needs assessment intended to respond to paradigm shifts in workplace education. Five questions guided the research:

1. What are the generic management activities of middle managers in the organization?
2. Given a list of generic management activities, what are the training needs of middle managers?
3. What are the preferred formats for meeting training and development needs of middle managers?
4. What elements in the organizational environment are likely to influence the training and development needs of middle managers?
5. What reflections can be made concerning the findings and the process of collaborative needs assessment?

Conceptual framework

A model of needs assessment was derived by combining elements of Geroy's (1989) Single Organization Assessment Model and Nadler's (1982) Critical Events Model. Geroy (1989) developed a schema for determining appropriate assessment strategies to employ depending upon the environment in which the assessment occurred. The Single Organization Assessment Model focused on the internal environment of the organization. The Critical Events Model (CEM) described the sequential events required to design a training program. Chief features of the CEM were: 1) it was intended to increase organizational effectiveness, 2) the common element throughout the model was evaluation/feedback, and 3) the initial phases were needs identification. Both models specified organizational environment as an influence on the assessment process, however, Geroy (1989) was more precise in categorizing the environment, while the CEM emphasized interactivity between participants. The adapted conceptual framework used in this study (see Figure #1, p. 47) began with the members of the organization perceiving that a training need might exist (internal sensing). The next step was need identification, which included a task analysis. Use of the focus group for feedback and to assist in the development of the assessment instrument(s) assured collaboration beyond the project team. The process continued by producing training plans which provided further evaluation information and feedback to the training department.

The approach used in this study differed from more traditional needs assessments by surveying the entire cohort of middle managers rather than relying on a sample. Further, this study did not compare worker performance against an "ideal" performance profile. Use of the nominal group technique (NGT) and a focus group facilitated collaboration between the project team and participants.

<u>Methodological approach</u>

The methodology employed in this study was descriptive and reflective. Empirical/descriptive dimensions of the study related to the first four research questions, while a qualitative/reflective dimension focused on the fifth question.

Data collection. Multiple data sources utilized to answer the empirical research questions included middle managers themselves, senior managers, line managers, and corporate documents. (See figure #2, p. 61, which summarizes data sources.) Data collection methods included semi-structured interviews, large and small group sessions, NGT, survey questionnaire, document review, and reflective observation. The process of data collection started with clearly defining the stated and implied expectations of the needs assessment by working closely with the project team, surveying corporate documents, and conducting interviews with a sample of senior managers. Next, sessions were held with middle managers and a sample of line managers. These sessions involved three phases: a NGT process to determine generic management activities of middle managers; small group sessions used to gather perceptions of changes influencing the training and development needs of middle managers; and large group sessions inquiring how the training centre might respond to training needs of middle managers. Collated information from the NGT sessions was used to form a list of the generic management activities of middle managers which was then used in the development of a survey questionnaire. A focus group suggested changes to the instrument and pilot-tested the revised version.

The survey questionnaire was critical to the needs assessment. Nowack's (1991) procedure was adapted to determine a quantitative expression of training need by multiplying the mean importance by mean proficiency scores to establish mean need ($\underline{X}I \times \underline{X}P = \underline{X}N$). Respondents rated importance and proficiency dimensions of 11 generic management activities using Likert scales. The questionnaire incorporated a qualitative aspect through the addition of four open-ended questions. Validation of the instrument was discussed in terms of content, concurrent, construct, and face validity. Reliability of the instrument was discussed in terms of consistency of test administration and scoring, and item consistency.

The questionnaire was administered to middle managers, achieving a response rate of 77.9%. For comparative purposes, the quantitative portion of the questionnaire was administered to senior managers, realizing a response rate of 88.9%.

The next stage in the data collection process was a review of selected corporate documents. This review served the chief purpose of determining elements in the organization influencing training and development needs of middle managers, although lateral information was also consulted concerning formats of existing training.

Data analysis. Content analyses were conducted on information from the following data sources: senior manager interviews, NGT sessions, large and small group sessions, open-ended survey questions, and documents.

Statistical analysis of the questionnaire responses of both middle and senior manager groups used the SPSSx computer program to calculate descriptive statistics (mean, median, mode, and standard deviation) across the 11 generic management categories. Nonparametric correlation using Spearman rho indicated moderate to high correlation among the elements.

Summary of findings

The major findings of this research are summarized under the five questions that guided the study:

1. **What are the generic management activities of middle managers in the organization?**

Although information from senior managers' interviews was considered, the chief source of information for identifying the generic management activities of middle managers was the NGT sessions held with middle managers and a sample of line managers. In total, 949 responses were generated. The responses were placed in categories, which eventually lead to a list of 11 generic management activities containing detailed key indicators (descriptors) for each. The generic management activities were: administration, change management, communication, customer service, financial management, leadership, planning, problem solving, quality improvement, staff development, and staff management.

2. **Given a list of generic management activities, what are the training needs of middle managers?**

Analysis of questionnaire responses found that staff development, change management, quality improvement, and planning were perceived to be activities in which middle managers had the greatest training and development needs. This determination was based on analysis of middle managers' self-ratings as well as senior managers' ratings of middle managers who reported to them.

3. **What are the preferred formats for meeting training and development needs of middle managers?**

Responses to an open-ended question indicated that the middle managers' three most preferred learning formats were in-house courses, institutes, and certificate and degree programs. From the large group sessions it was determined that the Training Centre could assist middle managers in meeting training and development needs through these most-often expressed suggestions:

1) Partnerships with institutions offering accreditation for learning;

2) Increased resources (time and money) for training and development, including sponsorships;

3) Training plans tied to individual needs, including succession planning;

4) Internships (internal and external to the

corporation);

5) Mentoring, and greater use of internal and external consultants;

6) A mixture of in-house and vendor supplied courses; and

7) More emphasis on "human skills" training.

Overall, formal, structured learning formats were preferred by middle managers.

4. **What elements in the organizational environment are likely to influence the training and development needs of middle managers?**

Changes perceived to affect the middle management job included: changes in the external environment, increased financial orientation of the utility, a shift in focus on the nature of the work, greater emphasis on human resources management, organizational structure changes, and changes in technology. Interviews with senior managers echoed similar perceptions, as did a review of corporate documents.

Open-ended questions revealed that middle managers perceived lack of time, budget, and workload as the chief elements hindering their training and development; while management support, sufficient funding, and available information concerning courses and workshops were considered factors helping middle managers in pursuing training and development.

Data sources suggested that changes in the external and internal environment of the corporation were significantly impacting the middle managers' job, and consequently their training and development needs.

5. **What reflections can be made concerning the findings and the process of collaborative needs assessment?**

Reflections were structured using Bogdan and Biklen's (1993) guidelines and included references to the critical literature on needs assessment.

Middle managers faced change in almost every aspect of their work. Internal and external organizational changes caused them to embrace training and development as a way of coping with change. Middle managers' preferences for structured learning formats may also have contributed to a sense of resistance to new paradigms which stress collaboration and innovation. The hierarchical management structure mitigated against middle managers having a genuine voice in determining their needs and how those needs might best be met. The likelihood was that needs assessment in this organization would continue to rely on prescriptive, externally created procedures. Increased participation in the needs assessment process would only be achieved slowly, and with recognition that resistance would come from the middle managers themselves and senior executives.

Reflection revealed that needs assessments are significantly influenced by the contexts within which they occur. Needs assessments are complex social constructions shaped by history, power relationships, internal and external organizational pressures, the participants themselves, and the needs assessor.

Adult educators and trainers in the field of workplace education face a dilemma of facilitating learner self-directedness in the context of mandated learning. My reflection about this dilemma was that learners, their bosses, and the needs assessor should collaborate in determining needs. The adult educator (assessor) should assume a facilitative role rather than acting as the expert importing external, prescriptive solutions.

Conclusions

General conclusions based on the findings of the study are presented in this section.

1. Generic management activities. A generalization can be made that defining generic management activities of the specific group under study is essential to collaborative needs assessment. Defining generic management activities gives the participants and the assessor a common understanding of the nature of the work. Further, by using participative processes such as the NGT, the process builds ownership in the assessment. While the generic management activities list may be similar to lists created in other organizations or by other needs assessment consultants, the advantage of creating an in-house list lies chiefly in the

process, not the content. Through interactions with other management levels in the organization, "buy-in" is likely to occur that the generic management activities accurately reflect the job being studied.

Although corporations may have well-developed job definitions, completing the list of generic management activities is warranted. Creating the generic management activities list not only frames the needs assessment, it provides a frame or common language for use by decision-makers and senior managers throughout the organization.

2. Determination of need. Determining need through survey questionnaires continues to be common practice. Unfortunately, reliance on questionnaires, particularly imported, "off-the-shelf" instruments reduces opportunities for collaborative assessments. Corporations continue to rely on questionnaire results because they are assumed to be "hard data" or "deliverables" that reflect real training needs. Such results fail to accommodate socio-political contexts, are prescriptive in nature, and fail to engage learners.

Despite the predisposition to instrumentality, management trainers are awakening to the notion that determining workplace learning needs requires techniques drawing upon the perceptions and expressions not only of participants, but also other stakeholder groups such as supervisors and supervisees. This is suggestive of paradigm shifts at a programmatic level in the practice of continuing education at the work site. Phrases such as "ownership" and "buy-in" can be translated as indicative of notions of empowerment and collaboration.

3. Conceptual framework. The third conclusion follows from the second, is that the conceptual framework of needs assessment is quite different at the level of practice than at the level of theory and research. Adult education theorists writing about needs assessment (Monette, 1979; Marsick, 1987; Watkins, 1989; Collins, 1989; Davidson, 1993) address issues of participation and empowerment, but practice does not reflect the contributions these writers have made. There continues to be a gap between the theory and practice.

The initial conceptual framework, adapted from Nadler (1982) and Geroy (1989), was seen to be too traditional to effectively meet the collaborative goals that this research attempted. Nonetheless, embedded within the framework were concepts of organizational elements influencing the assessment process and the need for frequent/continuous feedback between the various stakeholders in the assessment project. Further, the circular aspect of the framework was valuable because it reinforced the notion that the assessment process is part of a continuous process of informing the organization about training needs of employees. Such circularity may also help needs assessors reflect upon their practice, thereby improving it.

4. Adjustment to change as a constant. The fourth conclusion that can be drawn from the findings in this investigation is that corporations are increasingly feeling the impact of change. It was evident from the expressions of highest need identified by this needs assessment that change is a constant factor in the working lives of middle managers. What emerged was a desire for learning about change, rather than training episodes narrowly focused on particular generic management activities.

Implications

Implications are offered on the basis of the findings and conclusions drawn from this investigation. This section contains implications for training and development at the selected corporation, implications for continuing education in the workplace, and theoretical implications. Finally, some implications for research are suggested.

Implications for the Corporation

A number of implications can be made that apply to the corporation studied. Generalizations to other corporations could be made from these implications, given a cautionary note that organizations, like people, are unique.

1. The job analysis contained in this study could be used for the creation of a job data-base for middle

managers. The data-base could allow for more consistent application of human resource practices such as performance reviews, individualized training and development plans, and recruitment and hiring. The NGT could be used with other job categories (such as line managers or foremen) to provide similar job analyses and data-bases.

A significant advantage of the NGT is reduction of bias and influence because it is essentially a silent exercise. The NGT also provides information from all participants which increases ownership in the process and potentially in outcomes. Group collaboration in the assessment process in this way makes it harder for job descriptions to be ignored or misinterpreted by decision-makers.

Where a job/task analysis is required, the NGT should be considered as an effective measure for collecting and categorizing the required information.

2. Given a corporation's preference for survey questionnaires, it would be difficult to introduce Brookfield's (1986) critical incident model of needs assessment. Nonetheless, Brookfield's (1986) model could be used subsequent to a questionnaire to collaboratively work with participants in determining training initiatives. In such a scenario, the results of the questionnaire could be correlated to critical incident sessions to provide validated evidence as to the expressed needs of participants. Involvement of senior managers could increase

their ownership of the process, thereby reducing the potential that findings would be "reinterpreted" by officials holding power and influence in decision-making.

3. If change is a given, then employees and decision-makers will need to "learn for change." Training and development initiatives could be reconceptualized from content-focused, structured episodes towards processes that surface the belief systems, anxieties, and aspirations of employees. Such a process requires a spirit of collaboration between all senior managers and employees. The implication is that learning for change is a dialogue between senior managers and employees. The adult educator enhances such learning through facilitation.

Implications for continuing education in the workplace

1. The term "needs assessment" could be considered an oxymoron because need is subjective and internally perceived; while assessment implies a methodological, external process. An implication for continuing education in the workplace following from this apparent contradiction is that adult educators should assume a facilitative, rather than a prescriptive role when called upon to assess training needs. Thus, we should help learners express their own needs within the socio-political context of the organization. Our responsibility should be to engage in a collaboration with the learner(s) having the objective of the learners, not the educator, determining needs. It

should be a process of shared discovery of needs as opposed to unilaterally ascribing needs.

2. An implication of collaborative needs assessment is that needs assessment ultimately become unnecessary in an organization. Where there are continuous linkages and feedback (collaboration) between learners and decision-makers in an organization, a formal undertaking to determine need becomes irrelevant -- the information is already available. Related to this implication is a changed paradigm concerning power relationships in an organization. For true collaboration to occur, relationships between supervisors and employees assume egalitarian dimensions. For management, the shift is from old values of command and control to new values that enhance worker creativity and autonomy. For workers, the shift is from accountability and structure to self-direction and empowerment. Collaboration moves members of an organization towards Senge's (1990) notion of the learning organization.

Theoretical implications

1. Praxis, the integration of theory with practice, implies a level of discourse between workplace educators and theorists that is currently lacking. The implication is that practitioners should explicate their needs with regard to training needs assessment (models, techniques) and theorists should examine practice effectiveness, and as Monette (1979) suggested, "philosophize in adult education"

(p. 92). Achieving increased levels of praxis in the realm of needs assessment implies examination of values and belief systems. In this regard, reflection on practice offers a way forward, as does action research.

Implications for further research

A number of recommendations for further research can be identified that are based on the findings of this study. Investigations into the relationship of adult education to workplace learning are implicit in these recommendations. More specifically, the practice of training needs assessment deserves continued scholarly attention.

1. A follow-up study to this research could be undertaken to explore the long-range impact of collaborative needs assessment in the corporation. Potential areas of investigation might include further examination of the notion of participant ownership of needs assessing -- did it impact how learner needs were determined and how those needs were met on an on-going basis? Further, an evaluation could be undertaken of training initiatives derived from this study -- what is the connection between needs assessment data and actual training activities?

It was clear from the reflective interview that the corporation was eager to engage in follow-up research tied to this study. In addition to serving both academic and corporate interests, such follow-up work could solidify the positive relationship extant between the two organizations and act as a model for other such private sector-university cooperative enterprises.

2. Comparative studies could be developed using the assessment process used in this study to substantiate the training and development needs of other employment categories in the organization, such as line managers or senior managers. Such studies might explore differences/ similarities in perceptions regarding changes affecting work, the organizational environment, and importance and proficiency of various management groups on the generic management activities developed by this study.

3. There is very limited information in the Canadian context regarding current practices in the realm of training needs assessment. American writers (Cross, 1979; Saari, et. al., 1988) suggested that carefully planned needs assessments frequently do not precede training. Research in Canada as to the frequency and nature of training needs assessment could address the current lack of information in this regard. Such research could also inform policy development in corporate and governmental sectors. Given federal government intentions to stimulate the economy through training and retraining initiatives, such research seems sorely needed.

4. A study could be undertaken utilizing Brookfield's (1986) critical incident model for needs assessment. It would be worthwhile to include the modifications to the

model suggested by this study in order to assure collaborative aspects are maintained. In contemplating such a study, thoughtful exploration of the organizational environment coupled with early specification of the project parameters might avoid some of the initial pitfalls encountered by this study. Regardless, the critical incident model offers workplace educators an assessment tool that is both pragmatic and at the same time responsive to principles of adult education which espouse learner empowerment and self-direction.

BIBLIOGRAPHY

Altman, N. (1988). Guide to the design and analysis of questionnaires. Burnaby, B.C.: Simon Fraser University.

Anderson, B.F. (1980). The complete thinker. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

Argyris, C. 1964). Integrating the individual and the organization. New York: John Wiley and Sons.

Arons, A.B. (1979). Some thoughts on reasoning capacities implicitly expected of college students. In J Lockhead and J. Clements (Eds.), Cognitive process instruction. Philadelphia: Franklin Institute Press, Inc.

Basseches, M. (1984). Dialectical thinking and adult development. Norwood, NJ: Ablex Publishing Company.

Barr, D. F. (1980). More needs assessment. Training and Development Journal, 34(9), 70-74.

Batley, T. (1990). Management education for professional engineers. Journal of European Industrial Training. 14(7), 9-16.

Bell, R. A., Lin, E. and Warheit, G. L. (1977, August). Issues in need assessment data collection strategies. San Francisco, CA: Annual Meeting of American Psychological Association. (ERIC Reproduction Services No. ED 149 208)

Block, P. (1991). Flawless consulting. San Diego, CA: University Associates.

Block, P. (1993). From paternalism to stewardship. Training 30(7), 45-50.

Bogdan, R.C. and Biklen, S. K. (1993). Qualitative research for education: An introduction to theory and methods (2nd ed.). Boston, MA: Allyn and Bacon, Inc.

Borg, W. R. and Gall, M. D. 1989). Educational research: An introduction (5th ed.). New York: Longman Publishing Group.

Borg, W. R., Gall, J. P., and Gall, M. D. (1993). Applying educational research: A practical guide (3rd ed.). New York: Longman Publishing Group.

Boser, J. A., and Clark, S. B.(1990, October). Improving the quality of questionnaires: A tool for evaluators. Washington, D.C.: Annual meeting of American Evaluation Association.

Boud, D., Keogh, R., and Walker, D. (Eds.). (1985). Reflection: Turning experience into learning. London: Kogan Page.

Bowman, B. (1987). Assessing your needs assessment. Training. 24(1), 30-33.

Bringas, J. E. (1992). Only the educated will survive. Journal of Alberta Society of Engineering Technologists. 4(4), 13.

Brookfield, S.D. (1985). Developing critical thinkers: Challenging adults to explore alternative ways of thinking and acting. San Francisco: Jossey-Bass.

Brookfield, S.D. (1986). Understanding and facilitating adult learning. San Francisco, CA: Jossey-Bass Publishers.

Brown, M. G. (1988). The emperor's still naked: Why management remains in the dark ages. Performance and Instruction. 27(9), 1-4.

Carr, W. and Kemmis, S. (1986). Becoming critical. Lewes, East Sussex: Falmer Press.

Carson, T. et al. (1989). Creating possibilities: An action research handbook. Edmonton: University of Alberta, Edmonton Catholic Schools and Edmonton Public Schools.

Charles, C. M. (1988). Introduction to educational research. New York: Longman.

Collins, M. (1989). Adult education as vocation: A critical role for the adult educator in today's society. London: Routledge.

Cross, K. P. (1979). The state of the art in needs assessment (Paper presented at the Conference on Lifelong Learning). Akron, OH, April 27, 1979. (ERIC Document Reproduction Service No. ED 181 032, 1979).

Darkenwald, G. G. and Merriam, S. B. (1982). Adult education: Foundations of practice. New York: Harper and Row Publishers.

Davidson, H. S. (1993). Making needs: Toward a historical sociology of needs and needs assessment in adult and continuing education. In M. Taylor and R. Bedard (Eds.) Proceedings of the 12th Annual Conference of Canadian Association for the Study of Adult Education (pp. 131-136). Ottawa: University of Ottawa.

Demitrion, G. (1993). Participatory literacy education: A complex phenomenon. Adult Basic Education 3(1), 27-50.

Denzin, N. K. (1970). The research act: A theoretical introduction to sociological methods. New York: Aldine Publications.

Duncan, M. (1989). Correctly spelling out needs: Needs analysis is essential to establishing a realistic training program. Computerworld. 12(26), 97-98.

Elias, J. L. and Merriam, S. B. (1980). Meeting needs. Philospohical foundations of adult eduction (pp. 35-47). New York: Kreiger Publications.

Elliott, J. and Adelman, C. (1973). Classroom action-research. Ford teaching project. Norwich: University of East Anglia.

Fullan, M. (1993). Change forces: Probing the depths of educational reform. London: The Falmer Press.

Gaventa, J. (1993). The powerful, the powerless, and the experts: Knowledge struggles in an information age. In P. Park, M. Brydon-Miller, B. Hall, and T. Jackson (Eds.), Voices of change: Participatory research in the United States and Canada (pp.20-40). Toronto: Ontario Institute for Studies in Education Press.

Gay, L. R. (1992). Educational research: Competencies for analysis and application (4th ed.). New York: Merrill, an imprint of Macmillan Publishing Company.

Geroy, G. D. (1989, January). The emerging and employed worker: Planning for the strategic imperative (Report No. CG 021 720). Ottawa, Ontario: 15th National Consultation on Vocational Counseling. (ERIC Document Reproduction Service No. ED 307 550)

Goff, M. R. (1984). Educating for cultural change in "the new Bell system." Performance and Instruction. 23(6), 14-17.

Gordon, J. (1986). Where the training goes. Training.

23(10), 49-66.

Green, G. P. (1987). Future executive and management training needs in Canada: A national survey. Business Quarterly 51(4), 90-94.

Guba, E. G. and Lincoln, Y. S. (1981). Effective evaluation. San Francisco, CA: Jossey-Bass.

Hay, D. G. O. and Linn, J. K. (1977). Needs assessment: Who needs it? Washington, D.C.: American School Counselors Association.

Halpen, D. F. (1984). Thought and knowledge: An introduction to critical thinking. Hillsdale, NJ: Lawrence Erlbaum Associates.

Houle, C. O. (1980). Continuing learning in the professions. San Francisco, CA: Jossey-Bass Publishers.

Hughes, R. ?., Jr. (1992). Development and validation of an instrument for assessing management development needs. Dissertation Abstracts International 53(10), 3505A-3506A.

Jacobs, R. C. (1988). Career anchors and team perceptions: Diagnosing management team building needs. Management Education and Development. 19, 51-67.

Jarvis, P. (1983). Professional education. London: Croom Helm.

Kaufman, R. (1983). A holistic planning model. Performance and Instruction Journal. 22(8), 3-12.

Kaufman, R. and English, F. W. (1979). Needs assessment: Concept and application. Englewood Cliffs, N.J.: Educational Technology Publications.

Kemmis, S. and McTaggart, R. (1982). The Action research planner. Victoria, Australia: Deakin University.

Kimpston, R. D. and Stockton, W. S. (1979). Needs assessment: A problem of priorities. Educational Technology. 19(6), 16-21.

Korhonen, L. J. (October, 1987). The Application Of A

Modified Delphi Technique In Job Task Analysis For Adult Education (Report No. CE050276). East Lansing, MI: Michigan State University, The Midwest Research to Practice Conference in Adult and Continuing Education. (ERIC Document Reproduction Service No. ED 295 046)

Korhonen, L. J. (1990). Nominal group technique. In M. W. Galbraith (Ed.), Adult learning methods: A guide for effective instruction, 2nd edition (247-260). Malabar, FL: Krieger Publishing Co., Inc.

Kosmidou, C. and Usher, R. (1991). Facilitation in action research. Interchange. 22(4), 24-40.

Kraemer, J. S. (1993). The Effects of Competition on Dominant Carriers: Common Patterns of Worldwide Change. (Monograph), Washington, D.C.: Deloitte Touche Tohmatsu International.

Krueger, R. A. (1988). Focus groups: A practical guide for applied research. Newbury Park, CA: Sage Publications.

Lagenbach, M. (1988). Curriculum models in adult education. Malabar, FL: Krieger Publishing Co., Inc.

LeCompte, M. D. and Goetz, J. P. (1982). Problems of reliability and validity in ethnographic research. Review of Educational Research. 52(1), 31-60.

Lee, W. W. and Roadman, K. H. (1991). Linking needs assessment to performance based evaluation. Performance and Instruction Journal. 30(6), 4-6.

Little, D. J. (1990). The linguistic dimension in critical education. Proceedings of the 9th Annual Conference of Canadian Association for the Study of Adult Education (pp. 232-239). Victoria, British Columbia: Department of University and Community Relations, University of Victoria.

Macdonald, C. R. (1982). Performance Based Supervisory Development. Amherst, MA: Human Resource Development Press.

Macher, K. (1984). Problems need solutions, not programs. Training and Development Journal. 38(10), 52-58.

MacMillan, J. H. (1987). Enhancing college students' critical thinking: A review of studies. Research in Higher Education, 26(1), 3-29.

Mager, R. F. (1992). What every manager should know about training. Belmont, CA: Lake Publishing Co.

Marsick, V. J. (Ed.).(1987a). Learning in the workplace. London: Croom Helm.

Marsick, V. J. (1987b, October). Action learning: A strategy for empowering managers. (Report No. CE 049 212) Washington, DC: Paper presented at the Annual Meeting of the American Association for Adult and Continuing Education. (ERIC Document Reproduction Service No. ED 289 041).

Maxmanian, P. E. (1977, April). A model (based upon open systems organizational theory) for continuous educational needs assessment in continuing professional education programs. (Report No. CE 011 077) Minneapolis, MN: Paper presented at the Adult Education Research Conference. (ERIC Document Reproduction Service No. ED 139 995).

Mayer, R. E. (1977). Thinking and problem-solving: An introduction to human cognition and learning. Glenview, IL: Scot, Foresman and Company.

Mayo, G. D. and DuBois, P. H. (1987). The complete book of training: Theory, principles, and techniques. San Diego, CA: University Associates, Inc.

McKernan, J. (1991). Curriculum action research. New York: St. Martin's Press.

Mezirow, J. (1990). Fostering critical reflection in adulthood. San Francisco, CA: Jossey-Bass Publishers.

Monette, M. L. (1979). Needs assessment: A critique of philosophical assumptions. Adult Education. 29(. 83-95.

Morris, L. L. and Fitz-Gibbon, C. T. (1978). How to measure program implementation. Beverly Hills, CA: Sage.

Nadler, L. (1982). Designing training programs. Reading, MA: Addison-Wesley Publishing Co., Inc.

Nadler, L. (Ed.) (1984). The handbook of human resource development. New York: John Wiley and Sons.

Nowack, K. M. (1991). A true training needs analysis. Training and Development Journal. 45(4), 69-73.

Nowlen, P. M. (1988). A new approach to continuing education for business and the professions: The performance model. New York: Macmiilan Publishing Company.

Rodriguez, S. R. (1988). Needs assessment and analysis: Tools for change. Journal of Instructional Development. 11(1), 23-28.

Ruggiero, V. R. (1988). Teaching thinking across the curriculum. New York: Harper and Row Publishers.

Rossett, A. (1987). Training needs assessment. San Francisco, CA: Jossey-Bass Publishers.

Rossett, A. (1989). Assess for success. Training and Development Journal. 43(5), 36-32.

Rossett, A. (1990). Overcoming obstacles to needs assessment. Training. 27(5), 55-59.

Saari, L. M. et al., (1988). A survey of management training and education practices in U.S. companies. Personnel Psychology. 41(4), 731-43.

Schein, E. H. (1985). Organizational culture and leadership. San Francisco, CA: Jossey-Bass Publishers.

Schlossberg, N. K., Lynch, A. Q., and Chickering, A. W. (1989). Improving higher education environments for adults. San Francisco, CA: Jossey-Bass Publishers.

Schon, D. A. (1983). The reflective practitioner: How professionals think in action. New York: Basic Books.

Schon, D. A. (1988). Educating the reflective practitioner. San Francisco, CA: Jossey-Bass Publishers.

Scott, D. and Deadrick, D. (1982). The nominal group technique: Applications for training needs assessment. Training and Development Journal. 36(6), 26-33.

Selvadurai, R. H. and Krashinsky, E. J. (1989, October) Needs assessment and evaluation: A synthesis paper. (Presentation site unknown). (Report No. TM 015 324). (ERIC Reproduction Service No. ED 322 177).

Senge, P. (1990). The fifth discipline: The art and practice of the learning organization. New York: Doubleday Publishers.

Sleezer, C. M. (1993). Tried and true performance analysis. Training and Development Journal. 47(11), 52-54.

Smith, M. E. and Dubois, D. D. (1993). Competency-based management development for senior managers at the New England Telephone Company. In D. D. Dubois (Ed.), Competency-based performance improvement: A strategy for organizational change (pp. 301-316). Amherst, MA: HRD Press, Inc.

Sork, T. J. and Caffarella, R. S. (1989). Planning programs for adults. In S. B. Merriam and P. M. Cunningham (Eds.), Handbook of adult and continuing education (pp. 233-245). San Francisco, CA: Jossey-Bass Publishers.

Spruell, G. (1986). Info line: Surveys from start to finish. Alexandria VA: American Society for Training and Development.

Thomas, J. and Sireno, P. J. (1980). Assessing management competency needs. Training and Development Journal. 34(9), 47-51.

van Manen, M. (1990). Researching lived experience: Human science for an actionsensitive pedagogy. London, Ontario: The Althouse Press, Faculty of Education, The University of Western Ontario.

Venable, W. R. (1988). Selecting tools for needs analysis. Training and Development Journal. 40(3), 34-36.

Watkins, K. E. (1989). Business and industry. In S. B. Merriam and P. M. Cunningham (Eds.), Handbook of adult and continuing education (pp.422-435). San Francisco, CA: Jossey-Bass Publishers.

Watkins, K. E. (1991). Many voices: Defining human resource development from different disciplines. Adult Education Quarterly. 41(4), 241-255.

Welton, M. (1991). Toward development work: The workplace as a learning environment. Victoria, Australia: Deakin University Press.

Winter, R. (1989). Learning from experience: Principles and practice in action research. Lewes, East Sussex: The Falmer Press.

Witkin, B. R. (1984). Assessing needs in educational and social programs. San Francisco, CA: Jossey-Bass.

Witkin, B. R. (1992, November). A qualitative analysis of needs assessment in the 1980s: The state of the art. Paper presented at the annual meeting of American Evaluation Association. Seattle, WA.

Zemke, R. and Kramlinger, T. (1982). Figuring things out: A trainer's guide to needs and task analysis. Reading, MA: Addison-Wesley Publishing Co., Inc.

APPENDIX A

INTERVIEW GUIDE

INTERVIEW GUIDE

1. What are the generic management activities of middle managers ?

2. What changes over the next three to five years will affect middle managers' jobs?

3. In what ways can the training and development needs of middle managers be met?

APPENDIX B

LETTER OF TRANSMITTAL

XXXX MID-MANAGEMENT NEEDS ASSESSMENT

Dear Participant:

Thank you for participating in the XXXX Mid-Management Training Needs Assessment.

This needs assessment is being conducted jointly by the XXXX Training Centre and the University of Alberta.

The questionnaire is part of a larger assessment process to determine the generic management training and development needs of Level II managers at XXXX. The generic management activities listed in the questionnaire were developed from information collected at group sessions held with Level I and Level II managers and interviews held with senior managers. These are the activities you and your colleagues determined best represent the generic management components of your job. The results will be analyzed and incorporated into a planning document addressing corporate training and development needs.

In order to assure anonymity, please do not sign the questionnaire. Responses will be coded so that no individual's responses can be identified. Your participation is voluntary and you may withdraw at any time.

Any comments or questions can be directed to Oooooooo, at XXXX or Allan Rachue, Adult, Career and Technology Education, University of Alberta, 492-3678.

Your participation is very much appreciated and will ensure that your training and development needs are accurately assessed.

APPENDIX C

QUESTIONNAIRES

MID-MANAGEMENT NEEDS ASSESSMENT

Instructions For each of the following generic management activities, please make two judgments. First, rate the importance of each activity to your current job requirements by circling a number from 0 to 5 (0 = not at all important; 5 = very important). Second, indicate your current level of proficiency in each area (0 = none at all; 5 = expert). Each generic management activity is printed in bold. Key indicators for the activity are listed in order to provide a definition of the activity. Consider the importance and proficiency of all key indicators to rate each generic management activity.

Example If you rate Customer Service to be very low to your current job requirement, you would circle 1 under Importance. If you rate your proficiency at Customer Service in your current job to be very high, you would circle 5 under Proficiency.

MANAGEMENT ACTIVITY	IMPORTANCE Importance to the activity to the job	PROFICIENCY Your proficiency in current job
ADMINISTRATION - use time management skills, resolve conflicts, set/interpret policies and procedures, analyze and report on activities of area, authorize purchases/contracts/expenditures, exercise technical skills of area, plan/prepare/monitor budgets, manage projects, acquire resources (eg. human, physical, financial).	0 1 2 3 4 5 Not at All … Very Important	0 1 2 3 4 5 None at All … Expert
CHANGE MANAGEMENT - identify opportunities, keep track of industry/business/technological changes, act as a catalyst for implementing and creating change, manage change process, apply business approaches/strategies (eg. acquisitions, mergers, alliances, partnerships), participate/facilitate cultural change.	0 1 2 3 4 5	0 1 2 3 4 5
COMMUNICATION - facilitate and participate in meetings, "manage the white spaces," interface between front line and upper management, write reports, make presentations, utilize good communication/listening skills, communicate corporate and section strategies/policies, keep staff informed, sell ideas, market services, negotiate.	0 1 2 3 4 5	0 1 2 3 4 5
CUSTOMER SERVICE - manage customer relations, resolve customer complaints, negotiate/consult with internal and external customers and suppliers, identify and meet needs of internal/external customers.	0 1 2 3 4 5	0 1 2 3 4 5
FINANCIAL MANAGEMENT - undertake financial analyses/reporting, develop/utilize area/section measures, identify revenue opportunities, develop business case -- including N.P.V. and cost studies, develop financial strategies for cost containment/operational efficiency/revenue generation to accomplish corporate and section goals.	0 1 2 3 4 5	0 1 2 3 4 5
LEADERSHIP - manage human aspects of change, provide vision and direction, delegate, promote team building, provide systems/tools/environment to support staff, chair committees/meetings, represent area, act as role model, provide feedback, recognize achievements, remove road blocks, know and utilize staff expertise and knowledge.	0 1 2 3 4 5	0 1 2 3 4 5
PLANNING - undertake strategic/operational planning, plan for area of responsibilities, utilize business/resource planning, forecast and plan for future, monitor opportunities/strengths/weaknesses/threats, review and evaluate status of plans, develop measures/standards/objectives, align area/functional plans with corporate plans and goals, advise (recommend) corporate strategy.	0 1 2 3 4 5	0 1 2 3 4 5
PROBLEM SOLVING - gather and analyze data/information, support individual and team initiatives, make decisions, facilitate problem solving and decision making.	0 1 2 3 4 5	0 1 2 3 4 5
QUALITY IMPROVEMENT - innovate, demonstrate quality principles, foster continuous improvement, instigate quality initiatives, analyze/review processes, use process management concepts.	0 1 2 3 4 5	0 1 2 3 4 5
STAFF DEVELOPMENT - facilitate individual/area development plans, complete staff development analyses, use coaching techniques, plan and implement training for staff, develop self, use career development strategies, provide staff with tools required (equipment, training, resources) evaluate development progress.	0 1 2 3 4 5	0 1 2 3 4 5
STAFF MANAGEMENT - recruit staff, administer performance management policy, complete performance appraisals, develop resourcing (staff) strategies, prepare/report MBO's, create positive staff morale, create an empowering environment, deal with employee relations issues, appreciate technical skills of staff.	0 1 2 3 4 5	0 1 2 3 4 5
OTHER GENERIC MANAGEMENT ACTIVITIES - there may be other generic management activities not included in the questionnaire which you consider significant. Please list these and rate in the space provided.		
______________________	0 1 2 3 4 5	0 1 2 3 4 5
______________________	0 1 2 3 4 5	0 1 2 3 4 5
______________________	0 1 2 3 4 5	0 1 2 3 4 5

MID-MANAGEMENT NEEDS ASSESSMENT

Training and Development ne… …rough a variety of methods: in-house courses, institutes, credit offerings, job rotations, study groups, certificate/degree program… …ase indicate up to three of your most preferred ways to meet your generic management training and development needs.

1. ____________________

2. ____________________

3. ____________________

You have rated the importance and your proficiency for the generic management activities of your job. Please identify any technical or area-specific training and development …ds you might have.

1. ____________________

2. ____________________

3. ____________________

There may be factors which hinder you in meeting your training and development needs. Please identify these as specifically as possible.

1. ____________________

2. ____________________

3. ____________________

There may be factors which help you in meeting your training and development needs. Please identify these as specifically as possible.

1. ____________________

2. ____________________

3. ____________________

APPENDIX D

RESPONSE ITEMS BY GROUP

Computer malfunction resulted in the original data not being available for presentation. Copies of the working data have been retained and can be made available for inspection upon request.

APPENDIX E

PREFERRED LEARNING FORMATS

OPEN-ENDED QUESTION ONE

"Training and Development needs may be met through a variety of methods: in-house courses, institutes, credit offerings, job rotations, study groups, certificate/degree programs, mentors, etc. Please indicate up to three of your most preferred ways to meet your generic management training and development needs."

in-house courses	29
institutes	27
certificate/degree programs	25
industry conferences/seminars	12
job rotations	12
mentors	12
study groups	11
specific project assignment	5
Reading of professional magazines and business books	3
scheduling meetings in other companies	2
U of A/NAIT courses -- not necessarily a complete program	2
trade shows	1
non-resident degree programs (U.S.)	1
self-paced computer-based training	1
self-paced reading programs	1

APPENDIX F

CHANGES IN THE JOB OVER THE NEXT THREE TO FIVE YEARS

XXXXX MANAGEMENT TRAINING NEEDS PROJECT

CHANGES IN THE NEXT 3 TO 5 YEARS THAT WILL AFFECT LEVEL II MANAGER'S JOB

GROUP 1

More productivity, fewer resources

Increased role as coach and resource

Increased change

Process improvement

Regulatory changes

Greater financial orientation by all users - specifically, Mobility and Directory

Customer measurements linked/applied company-wide

Operating environments

Increased stress management for self and employees

Manager as work-team participant

Increased emphasis on innovation and creativity

Corporate acquisitions

More projects/project management

More process/systems alignment

More presentations to internal customers/suppliers

More measurement controls

Increased emphasis on greater and better communication

Increase in audits

Increased competition for products and services -- internal/external

More soliciting of customers -- expectations

Reduction in identity

Reduction in XXXXX with sale of companies (Directory & Mobility)

More accountability

Increase emphasis on stronger business cases for strategic directi

More an tical focused vs. processing

More d ffi ul to plan (1 yr. vs. 3 yrs.)

More marke driven/more customer focused

More foc n measurement -- continuous improvement

More staff m gement because no time to train -- fire existing/repl. w h ined external

Redeployment/retraining of res urces

Greater shift to user pay, resulting in more outsourcing (contracting out)

Increased span of control

Increase in costs of services to our customers (unbundled costs)

Need for entrepreneurial activity

Increased staff management functions caused by decrease in level of management (delayer)

More focus on reduced operating costs

Ensuring job skills/knowledge/attitudes up to date

More objective measurement of performance vs. subjective

P.C. skills/knowledge mandatory

Greater emphasis on transportable skills

Increased strategic focus and direction

Communication more emphasized

Timely replacement of experienced personnel (craft and management)

More staff uncertainty re: job security

More focus on value of job/position

More (continued) corporate restructuring/realignment

Benchmarking with best in class

Telecommuting

Employee health and wellness

Job sharing

GROUP 2

CHANGES IN THE NEXT 3 TO 5 YEARS THAT WILL AFFECT LEVEL II MANAGER'S JOB

Self-directed/managed work teams

Fewer full-time, permanent employees

Job sharing

Totally network?

Working from home

Deregulation?

Competition

Profit sharing

More strategic planning

"Arms-length" subsidiaries

Integration of quality

"Re-engineering" the company

Much "slicker" delivery of service to customers

Adapt to technological change

Do more with less

Restructuring required to support technology change

Greater employee involvement

Much more automation

Greater cross-functional integration (interdependence)

Possibility of expanding to new markets (support for)

More money from "value added" services

More alliances/partnerships with outside firms

More support functions outsourced

Greater sales support from all areas

New regulators (C.R.T.C.)?

New owners

GROUP 3

CHANGES IN THE NEXT 3 TO 5 YEARS THAT WILL AFFECT LEVEL II MANAGER'S JOB

Elimination of Level II jobs

Younger

More M.I.S.

More project management/process improvement

More profitability

Tighter budgets

More brainstorming (creativity)

Harder decisions

Better delegation

More responsibility (financial, strategic planning)

More stress (less golf)

More knowledgeable about area and XXXXX

Increased educational requirements

Succession planning

Better sales skills

increased accountability

"Tights and Cape"

Greater movement (flexibility of abilities)

"Business-based" decision making

Write business plans

Possible stagnation (lack of updating) -- requirement for upgrading

Computer literacy

Coordinator/planner role

More proactive

Aware of trends

More innovative

Anticipate changes

More "matrix management" skills (work with a variety of people)

Project management vs. area management

Promotions based on management vs. technical skills

Salary increases

Profit sharing (bonuses)

Pay for performance

More external hires vs. internal development

More long-range planning

More statistical analysis

More change management

Increased external contact

Stronger "people skills"

Larger span of control

More business acumen

More team work

GROUP 4A

CHANGES IN THE NEXT 3 TO 5 YEARS THAT WILL AFFECT LEVEL II MANAGER'S JOB

Tighter budget control (more in-depth knowledge)

More accountability for cost control/revenue generation (contribution based performance)

Improved sales/marketing skills (all staff will be consultants)

Result/measurement focus (quality)

Lean and Mean (resource management)

Customer driven (surveys to produce action)

Increased ability to be flexible to change

Computer literate

Work from home (telecommuting)

Empowerment (increased organizational skills)

Team/group work focused

GROUP 4B

CHANGES IN THE NEXT 3 TO 5 YEARS THAT WILL AFFECT LEVEL II MANAGER'S JOB

More emphasis on quality measurements

More delegation on hiring and firing

Higher financial/fiscal responsibility

More realistic (accurate) -- projections -- budgets -- justification

Better formal education for staff

Reduction of fringe benefits, tighter cost controls

Longer working hours

Greater interaction with customers

More leading rather than following

More entrepreneurial spirit

Greater emphasis on leadership skills

Better interpersonal skills, team emphasis, greater cooperation

less dictating

More empowerment

Less middle management

GROUP 4C

CHANGES IN THE NEXT 3 TO 5 YEARS THAT WILL AFFECT LEVEL II MANAGER'S JOB

Emphasis on revenue (How much money is our Business Unit making?)

Results orientated

Level II positions gone

Less people to manage

Level I's responsible for budgets

Level I empowerment

More customer orientated

Increased education

Better oral/written communication skills

Less hours of work

More budget constraints

Enhanced technology -- e.g. LAN, E-Mail, etc.
Better people skills

Change company name (ownership change)

More competition

More quality orientated

"Customer" is the driving force

More flexibility

Greater area knowledge

Specialists

Happy employees/customers

M.B.O.'s eliminated

XXXXX will be a long haul carrier

Measured results (cost savings/revenues)

GROUP 5

CHANGES IN THE NEXT 3 TO 5 YEARS THAT WILL AFFECT LEVEL II MANAGER'S JOB

Downsizing (downbuilding)

Customer focused

Activity focused

Corporate alliances (partnering)

Focus on bottom line

Early retirement incentives

Competition (external)

Culture

More accountability

Reduction in management (flattening)

Risk

Coaching

Separate companies

Projects vs. operational

Outsourcing

Technology

C.R.T.C. regulation

Decentralization (telecommuting)

Job sharing

Career changes

New systems

Multiple careers

Concentration/elimination of work functions

Innovation

Reduction of staff

"In-time" training

Less advancement opportunities

Re-education

Competition for jobs

More Board involvement

Less hierarchy -- more teams (less "X", more "Y")

Business Unit elimination

GROUP 6A

CHANGES IN THE NEXT 3 TO 5 YEARS THAT WILL AFFECT LEVEL II MANAGER'S JOB

Change forces:
Federal jurisdiction (C.R.T.C.)

Corporate restructuring

Local network competition

Long Distance

Technological change

Increased customer expectations

More with Less

Technological tools to assist managers

Industry restructure (Globalization)

Technological convergence

Job focus:
Telecommuting

Communications become more important

Organizational flattening

Broader span of control

Faster cycle times needed

Must be faster and better at identifying customer wants

Increased flexibility

Manage higher rate of change

Reallocation of corporate priorities

More attention to regulator and outside forces

GROUP 6B

CHANGES IN THE NEXT 3 TO 5 YEARS THAT WILL AFFECT LEVEL II MANAGER'S JOB

Down sizing

Elimination of middle management

Contracting out

Competition (internal or external)

Employee attitude

Technology

New business ventures

Buy headquaters building

Fibre to the home

Reorganization

Retirement -- both planning for and dealing with

Local network

New "Fresh blood"

Collapse of the Canadian dollar

Do we become New Zealand?

Merger

Buy AGT

Sale of XXXXX

Layoffs

C.R.T.C. Regulator

Free Trade

Video business

Economic boom

Wireless

Expand boundaries

APPENDIX G

FACTORS HINDERING TRAINING AND DEVELOPMENT

OPEN-ENDED QUESTION THREE

"There may be factors which <u>hinder</u> you in meeting your training and development needs, Please identify these as specifically as possible."

not enough time....................................19

budget...13

workload...10

scheduling conflicts................................8

no clear training and development plan..............8

unaware of programs/courses that are available......7

lack of mentoring and guidance from senior management..5

insufficient availability of one-day seminars..5

demands on time at home.............................4

available training is not sufficiently up-to-date in hi-tech areas....................................4

rapidly changing environment........................3

lack of opportunity to practice what has been taught.......................................2

organizational structure causes time and budget constraints..2

lack of high quality mid-management speciality programs (i.e. fly-by-night seminars).........................2

limited opportunity for promotion...................2

perception that external training is a "perk"......1

although budget $ are available for these activities, its been suggested that these funds not be spent and our budget looks better at year end being underspent a significant amount..................................1

training budget is not based on need, but rather last year's budget..1

lack of "process" and "measurement/assessment tools" to assess and reassess T&D needs on an on-going basis....1

courses specific to XXXXX.................................1

lack of opportunity to do job rotation..................1

not encouraged by Director, i.e. courses not approved..1

APPENDIX H

FACTORS HELPING TRAINING AND DEVELOPMENT

OPEN-ENDED QUESTION FOUR

"There may be factors which help you in meeting your training and development needs. Please identify these as specifically as possible."

variety of delivery methods

management support for course--the manager has done it--can relate

XXXXX extremely supportive in training needs

1) mandate course(s) and budget for all managers
2) develop course/program list
3) individ. training program supported and encouraged by directors and V.P.

training appears readily available

funds available

outside courses

conferences,networking, etc.

corporate task forces

advance planning (as far in advance as possible

training needs evaluation tools (rather than the next brochure looks good approach)

supervisor recognizes the value of training and development

manager support

once every 3 years $5K more than covers budget allotment

skill assessments reviews as part of the performance review process

support

corporate direction and commitment

identification of weaknesses

needs have been met to date

Training Area extremely helpful

Senior managers willing to take time as mentors

job rotation if allowed to stay in position long enough to learn to manage it

financial assistance in postsecondary education

course descriptions/catalogues assist in training plans

availability of courses, both in-house as well as from institutions

having a director you can learn from

Training Centre's role as an information resource locating appropriate training courses

feedback from other managers who have taken courses

immediate manager

guidance to the best and most appropriate courses for own needs -- boss? peers? consultant?

compendium of related courses and sources of reference

ability to attend

ability to apply immediately to the job

learn as you go through a variety of "on the job" challenges

a supportive upper manager

excellent support and access to information from our Training Centre

lots of money available

am now in "less pressure" area

good staff capable of handling my position in my absence

XXXXX support for (budget and Travel) training and development

fairly knowledgeable support for course/training selection and search

commitment from senior management to this training (make time available)

XXXXX's emphasis on the importance of training

budget dollars available

good training department

management support and direction

the company will re-imburse tuition very freely

any training needs I have addressed in the past have been acted on positively

money and time

there are local organizations that sponsor industry specific training that helps to provide training at reasonable costs

when XXXXX creates a training program that is mandatory

when XXXXX specific tools are created to help develop skill areas

when there is positive reinforcement of new skills

there does not seem to be any budget constraints when specific training is requested and needed

there are so many management courses, development sessions and seminars available on the market today that I cannot be specific as to what helps. If I budget for my needs in training and development, facilities are available to accommodate

course catalogue

quality training bulletins

having training provided with those who "live the life" (co-workers)

immediate managers support, coaching, mentoring

process that will ensure T & D needs are well defined and proper choices made

budget and time

U of A has good evening programs

Banff School of Management, etc.

healthy training budget

easy access to all training facilities (in-house and out of house)

supportive management

Often the view of the Director -- if positive toward trainin will approve or fight for training exception if the training doesn't meet co. policies. It depends on the Director howev

some of our internal courses are excellent (e.g. labour relations) more pertinent than anything outside.

area specific conferences, training

word of mouth, learn on the job

training course guide and required training provided by XXXX

visiting and talking to other companies

talking to other staff who can tell you about courses, opportunities

XXXXX's reimbursement policy

XXXXX's management training plan