ABSTRACT
        A study was conducted to determine the impact
technology would have on the developing scenario of a competitive
market for the training and retraining of both the unemployed and
employed. The objective was to identify the perceptions of employees
concerning technology and the effectiveness and efficiency of office
technology training. The study was limited to a small sample of chief
executive officers (n=3), supervisors (n=5), and staff (n=10) working
in small, medium, and large businesses in Edmonton, Alberta; all 18
participants responded. Findings indicated that all
organizations--small, medium, and large--support both training and
retraining. Support for this scenario was evident from all levels
within organizations and was perceived to be of great personal and
corporate value. Findings also showed that technology was definitely
affecting policies and procedures with respect to training and that
companies were definitely involved in processes of need analysis and
strategic planning as ways of determining direction and priorities.
Technology was causing change, the speed at which technology was
forcing businesses to adapt showed that change was a norm, and
planning for change had begun to dominate the business community.
(Appendixes include the questionnaire, questionnaire results, and
interview protocol.) (YLB)

PERCEPTIONS OF COMPANY EMPLOYEES ON TECHNOLOGY

AND OFFICE TECHNOLOGIES TRAINING

by

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Presented to
Columbia Pacific University
in partial fulfullment of the requirement for the degree of
Doctorate of Management

DATE SUBMITTED: JUNE 15, 1988

EXECUTIVE SUMMARY

ABSTRACT

As a result of changes which are occurring in business communities, economic conditions, and the government's philosophy on "privatization" a scenario has developed which indicates there could be a competitive training market for the unemployed and for the employed seeking retraining. A study utilizing both qualitative and quantitative methodologies was conducted to determine the impact technology would have on this scenario of training and retraining. The findings indicate that there is support for both training and retraining from all organizations whether small, medium, or large. Support for this scenario was evident from all levels within organizations and was perceived to be of great personal and corporate value. It was also shown that technology was definitely affecting policies and procedures with respect to training and that companies were definitely involved in processes of needs analysis and strategic planning as ways of determining direction and priorities.

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BACKGROUND

The speed at which technology is changing could result in businesses being driven by technology instead of technology being implemented based on company goals and predefined directions. In 1987 Moser and Seaman completed a study in the United States which indicated businesses were developing training programs to facilitate demands being placed on businesses due to competition and technology. For this study, a decision was made to determine the perceptions of employees concerning technology and the effectiveness and efficiency of office technology training. To facilitate this decision it was decided to undertake a qualitative and quantitative study in an attempt to validate/corroborate findings and conclusions.

FORMAT

A qualitative and quantitative process was adopted to allow for descriptive statements based on the data obtained. A questionnaire was designed to create the initial data necessary to facilitate the interview process. Prior to the questionnaire being used it was validated by a member of the business community, peers within the educational community, and students from the Business Careers program, at Alberta Vocational Centre, Edmonton, currently training for entry level employment. Based on the feedback from this group the final questionnaire was designed and it was used to address the following major areas of concern:

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I. To what degree do companies follow a Corporate Policy (written or informal) in determining training needs and in identification of training priorities?

II. To what degree are corporate policies regarding training actually used to define the parameters within which training is to occur?

III. To what degree is training perceived to be affected by or driven by technology?

IV. Who sets corporate policies regarding training?

V. How is the need for training established and what is the relationship between training content and predefined needs?

VI. Who is responsible for maintaining the cost-effectiveness of training and for selecting training mechanisms?

Using the concept of random sampling a number was chosen and used to select the pages within the reference book Contact Influential from which companies would be selected. The companies selected were chosen according to number of employees and identified as small, medium, or large. A request was then made for company participation in both the questionnaire and the interview process. Contacts within the organizations were asked to select volunteers expressing interest in participating in the study. Just prior to the interview process all participants were given the opportunity to withdraw from participation in the study. The interviews were used to clarify the data collected from the questionnaire and to develop a deeper understanding for

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training priorities and the impact technology is having on this field.

ANALYSIS

The data collected were viewed based on the frequency of responses per category, and the ranked mean responses per category. The data was collected from one small, one medium, and two large companies within 'he Edmonton, Alberta, business community. The analysis was based on responses from three CEO/Executive designates, five Manager/Supervisors, and ten Staff/Employees.

The highest level of support was acknowledged by all levels within organizations for the perceived personal value obtained from training in the technical areas. Corporate values were also perceived to be achieved with a high degree of success. The concept of self-motivation was the characteristic identified by all participants as the requirement needed to create success in areas of technological training. It was shown that technology was having an effect on current policy implementation and future policy considerations. Training was the area most affected by technology and all companies gave support for the fact that training was a necessity.

In the analysis it was shown that managers/supervisors gave strongest support to areas that concerned organizational procedure and implementation. Managers/Supervisors expressed the strongest support for the concern for future technical

training among managers and executive level employees. It was also stated by this group that current procedures were effective and that training was meeting the needs defined by the company and that overall efficiency of training was positive.

Manager/Supervisor levels expressed that time was sufficient both for training and for practicing newly acquired skills. This belief, however, was not paralleled by the CEO/Executive group or the Staff/Employee group. In the interviews all participants acknowledged the concern for adequate time allocation but all realized that time was the major cost factor in determining training priorities. It seems the willingness of employees to commit personal time was one factor used by all in identification of what has been defined as self-motivational characteristics.

There was a high degree of support shown and confidence expressed in the interviews for the concepts of planning, control, and maintenance of technical training. The larger the organization the more committed the personnel were to the formal concepts of policy and procedure. All participants did, however, express strong support for the impact technology was going to have on organizational opportunities of the future.

CEO/Supervisors and Staff/Employees did not believe executives would require technical training per se today nor in the future. In the interviews, however, it was revealed by all participants that technical awareness was definitely a necessity no matter what position a person occupied. In fact, all participants related this technical awareness specifically to the

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area of communications which all believed would be more important due to the exact process required for information analysis and presentation. These two groups do not see technology affecting organizational structures, yet in the interview process all participants stated their roles and responsibilities had changed drastically since the introduction of microcomputers into their working environments. Time required for training and for practicing learned skills was perceived by these two groups as being inadequate.

Staff expressed a strong concern for the fact that procedures used in selecting the types of training and training participants were not effective and in the interviews it was also expressed by some that they believe more upper-level line personnel are being trained than those involved with the technology directly. This was supported by the fact that staff perceive the overall efficiency of training programs to be low.

Supervisor/Managers did not support the overall disagreements being expressed by other participants. It can be shown, from the data collected by the questionnaire, that this level did not believe personal input to training processes or personal needs were being addressed through training programs. They also did not perceive technology having an impact on future policy design and implementation. In the interviews, however, this group expressed that concerns were related more to the present than the future, because in the future people seeking employment would already be trained or they would not be

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employable.   All did, however, state that training would always be a priority due to the speed at which technology was changing.

CONCLUSIONS

Overall, this study shows that there is total support for technological impact and training across all sizes of companies and all levels within companies in the Edmonton area.   There was evidence for the importance training was expected to have on future policies and procedures, whether formally pursued or informally carried-out.

It was shown that all companies follow policies and procedures and that the larger the organization the more formal this process.   Companies realized that technology was affecting present processes; therefore, they were willing to train people to the level identified through defined routines and needs analysis.   Training responsibility, however, was placed on the employee as well, and it could be shown that self-motivation was looked to both directly and indirectly when trainees were selected.

The unity of perception identified between executive-level personnel and staff personnel suggests that support for common values, attitudes, and goals was being achieved and that change processes were being accepted throughout the organizations.   The strongest concern for change was coming from the managerial/supervisor level, and this could be explained due to the fact that the structure in the organizations most affected

due to technology was the middle-management level. Nevertheless, it was shown that operational processes concerning training were perceived to be successful and acceptance for current procedures was acknowledged.

From this research it was evident that Edmonton businesses were definitely using technology, training employees, using strategic planning, and beginning to participate in needs analysis. This could be significant for those looking for employment and for those seeking promotion. Technological awareness and application have been identified as a ne:essity for future employability. For those involved in the training process it means that generic courses will not meet the needs of companies or individuals. To attract the client of tomorrow's company one must be prepared to train not only for today but for the needs being identified for tomorrow. Training/education organizations must develop processes that are more flexible, needs specific, and definitely student-centered. Institutions must develop different marketing techniques and their curriculum development processes, as well as instructors, must keep training current. There was evidence to show that companies do expect the programs to be needs specific and that not only is the curriculum evaluated but so too is the instructor.

Success for all will, it appears, only occur if the mix is correct.

ACKNOWLEDGEMENT

My family are entitled to the most credit for their willingness to give up all the weekends and special time in order for this project to be completed. A special thanks goes to Penny, Kelly, and Christie for their understanding and support.

To the following companies and their employees, without whom this paper would not have been possible, I wish to express my eternal gratitude and appreciation.

Alberta Power Limited
Amalgamated Air Conditioning
City of Edmonton, Plants & Waste Branch
R Angus Alberta Limited

A statement of appreciation is given to the following people for assisting with the initial development of my questionnaire.

Dr. Bill Green
Barbara Nimchuck
Wayne Vibert
Betty Snowadzki
JoAnne Hyland

Working Systems Limited of Edmonton, Alberta, Canada listened to theories and ideas and allowed for input to their training manuals that has resulted in the development of marketable training material suited to adult learners. I thank this company for its trust and confidence and for its permission allowing for submission of materials as evidence to the application of my ideas and beliefs regarding curriculum and/or training development.

Finally, I wish to thank Dr. Pat Fahy for all his organizational assistance, patience, and time. It has been a pleasure and total enjoyment working with Dr. Fahy.

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I. INTRODUCTION

BACKGROUND

Since 1986 the scenario has developed in Alberta where the
gover.aent's spending problem is being addressed through budget
cutbacks. These budget cutbacks combined with the government's
philosophy on "privatization" have resulted in the creation of a
competitive training market for the unemployed and for the
employed seeking retraining. The literature and perceived
corporate patterns leave little doubt that the training
undertaken by most parties involves the use of technologies.

Three distinct patterns can be identified which allow people
an opportunity to train or become qualified in the technological
requirements of today's offices. People may choose to enter a
program of learning which is offered through an institutional
environment - a university, college, or technical school.
Secondly, a choice may be made to register for training with a
private corporation. Finally, a person may register for training
with their company (In-House Training) as the third alternative.
The end goal of all three of these training routes is the
development of a highly technically proficient employee.

The literature and recent advertisements from the
marketplace lend credibility to the assumption that technology is
the current training focus. Training, however, has a cost factor
which must be addressed by employees, employers, and people
seeking employment. The government's outward support of

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"privatization" and the federal government's Job Strategies Programs are factors that also support the emphasis for private sector technical training. Of the available training routes the Moser and Seaman study (1987) revealed that, for private and public sector enterprises, in-house training was not only preferred but was extensively supported by financial and other incentives. The need for in-house training, then, is widely acknowledged, is well-supported, and is predicted to grow. The question is: how is it now done, and how could it be improved?

STATEMENT OF THE PROBLEM

The problem addressed in this study was to describe how the need for present and future technological training was being acknowledged and met in the Edmonton business community. The purpose was to use the perceptions of company employees at several levels to assist in designing and implementing more effective and efficient office automation training programs. The theoretical basis was that, training implies future projections; therefore, perceptions concerning future training necessities could be probed in an attempt to determine if the finding of the Moser and Seaman study applied to the Edmonton business community.

NATURE OF THE STUDY

This study addressed the perceptions of CEOs/Executives, Managers/Supervisors and Staff regarding training, by seeking the perception of these groups regarding the effectiveness and

efficiency of present office technology training. The study
focuses on the who, what, where, when and why of training as they
pertain to office technology. The research questions addressed
were:

I.   To what degree do companies follow a
        Corporate Policy (written or informal) in
        determining training needs and in
        identification of training priorities?

II.   To what degree are corporate policies
        regarding training actually used to define
        the parameters within which training is to
        occur?

III.   To what degree is training perceived to be
        affected by or driven by technology?

IV.   Who sets corporate policies regarding training?

V.   How is the need for training established and what
        is the relationship between training content and
        predefined needs?

VI.   Who is responsible for maintaining the cost-
        effectiveness of training and for selecting
        training mechanisms?

This study was an attempt to address training perceptions
within the specific area of office technology training. A
combination of qualitative (interview) and quantitative
(questionnaire) methods were used to gather data. The
environment chosen was the Canadian business community in
Edmonton, Alberta. Small, medium, and large companies were
chosen to participate in the study. Employees were then given
the opportunity to share their perceptions regarding training in
office technology.

An interview mechanism was designed which would create consistency in the questions asked of each participant. The mechanism assisted in determining the company's and the trainee's purpose for training, the method for selecting trainees, and the ultimate benefit received as a result of the training.

DEFINITION OF TERMS

Perspective:	a co-ordinated set of ideas and actions a person uses in dealing with some problematic situation; a person's ordinary way of thinking and feeling about and acting in such a situation.
Perception:	an awareness of things or situations based on experiences and the interaction of a person's senses.
Trainee:	any company employee participating in a training program within the last year.
Interview:	a face-to-face verbal exchange in which the interviewer attempts to elicit information or expressions of opinions or belief from another person or persons.

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Technology: the use of computer hardware and
                               software technology as they apply
                               to the work environment.

Privatization: a working situation previously
                               managed by a governmental agency
                               currently being managed by a non-
                               governmental entity.

Line positions: an employee having the
                               responsibility to make decisions
                               that affect other employees.
                               C E O / E x e c u t i v e a n d
                               Supervisor/Manager categories fall
                               into line positions.

Staff positions: employees responsible for daily
                               routines.

Upper-level participants: an employee having the
                               responsibility to make decisions
                               that affect other employees. These
                               p a r t i c i p a n t s h a v e l i n e
                               responsibilities.

LIMITATIONS AND DELIMITATIONS

1. This study was delimited to a small sample of employees
    working in small, medium, and large businesses established
    in the Canadian business area of Edmonton, Alberta, Canada.

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This delimitation resulted in some limitation of generalizability of the study's results. (See Chapter 4)

2. This study was focused on trainees' perceptions of technology and on their training programs or courses completed within the 1987 calendar year.

3. All participants were recommended to the interviewer by a Corporate Executive Officer (CEO) or designate. The participants were then given the opportunity to decide in confidence to participate or not to participate in the study. This limitation was accepted to show respect for the hierarchy which exists within organizational structure and to create a climate of trust between the participant and the interviewer.

IMPORTANCE OF THE STUDY

The data gathered should give insight into the development of more effective and efficient training programs in office technologies. The information should be pertinent to trainers, corporations, public and private training institutions, and to similar business communities. The information addresses perceptions about the who, what, where, when, and why of the adult learners participating in a sample of today's educational and professional training environment. The participants are the clientele or customers and their perceptions should affect program offerings, program content, marketing procedures, and evaluation concepts involved with goal setting and planning

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strategies. The study also should determine whether the training direction revealed in the Moser and Seaman study was being paralleled in the business community in Edmonton, Alberta.

SUMMARY

The major purpose of this study was to obtain perceptions regarding the direction Edmonton businesses were taking, and the directions they felt they should take, as a result of technology. It was assumed that the perceptions of trainees regarding the effectiveness and efficiency of recent training in office technology would give insight both to training efficacy and to the present influence of technology within business environments in Edmonton. It was believed that perceptions could play a significant role in developing better training programs for office technology applications. The information gathered could be used broadly in design of educational and training programs, and was particularly intended to assist the writer in developing materials related to his own consulting practice (See Appendix H).

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II. SEARCH OF THE LITERATURE

Change as a Social Phenomenon:

Change is accelerating, mainly due to recent accelerating technological developments. All areas within society are being changed by technology and training has become a necessity if society is to adapt. Daily life is becoming extremely complex and subject to perpetual and unprecedented change. Alvin Toffler, in his book Future Shock (1971), supports the ideas on change and addresses the concern for the speed at which change is occuring. As Roger B. Smith (1986) points out, "Clearly, change can no longer be considered an aberration: It is the norm" (p.21). Businesses must adopt what is more productive in order to continue to be competitive.   Education must adopt new methodologies and processes to keep training relevant and applicable to business and society. The problem with today's situation, however, is the speed at which change is occurring.

The Business Situation:

The most significant changes are occurring in our business environment. Technology and market conditions have caused the business environment to change as people are being required to be more productive (Naisbitt, 1982).   The Botkin study (1982) emphasized that knowledge was as vital a resource as natural resources and physical investment. Botkin   also stated his concern for retraining workers due to technological change (p.183). Schuster (1982) made the prediction that "By the end of

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the 1980's, most members of the workforce will no longer make a distinction between education and employment" (p.35), which relates the impact the information environment and the concept of knowledge will have on those concerned with the work environment of the future. Ron Gilmore, of the consulting firm of Gellman, Hayward & Partners Ltd. of Calgary, Alberta, supports the concepts of an information environment and adds this comment: "The computer work of most organizations is no longer number crunching, a commodity, but information storage and manipulation, a far more strategic and value-added service" (1987).

Robert E. Umbaugh (1985) gives a definition to change which supports most research. He stated:

> Some would say that change is a key influencing factor. Change, however, is the result of internal and external forces and not one itself. Because change is difficult to describe, it can best be understood and addressed if it is approached from the perspective of its causes.
>
> Clearly, technology causes changes, often when we do not adopt it ourselves. This idea is not new to those of us who have been in the computer field for some time. What is new is the speed with which new technology is being introduced and brought to the market. Deciding which technologies apply and in which form and keeping pace with technological developments is both intellectually demanding and time consuming. (p. xv)

Alan Porter (1986) sums up the impact of change with his statement, "There is no doubt that the Information Age has arrived for the working world" (p. 9). Porter, however, cautions us to expect the nature of work to change abruptly in the next 25 years. His concern is focused in the concept that our "job" is

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the cornerstone of our social structure. Porter's solution for the stated concern rests with the concept "planning" (p. 14). Planning has been strongly expressed in management articles as the key to solving organizational and societal problems (Barnard, 1976; Simon, 1976; James, 1985; Umbaugh, 1985). In this age of perpetual change, planning presents a special problem for businesses (Smith 1986, p. 21). Business's only answer it seems is to plan for change as a way of life (ibid., p. 21).

Eurich (1985) in his book <u>Corporate Classrooms</u> discusses in detail the need for training. Boyer in the foreward to <u>Corporate Classrooms</u> describes education and training as an "investment" that "will give employees skills, knowledge and attitudes that will make them more productive and competitive" (p. 2). Moser and Seaman (1987) support this concept and accept it as a "vital area in adult education..." (p. 223). In supporting other authors (Darkenwald, 1983; Lusterman, 1977; Nadler, 1981; Weinstein, 1976), however, Moser and Seaman state that educators must be concerned with individual employee needs and motivations (Moser and Seaman, p. 223). The literature (Moser and Seaman, 1987; Hersey and Blanchard, 1976; Herzberg, Mausner, Synderman, 1959; McClelland, Atkinson, Clark, Lowell, 1961; Weinstein, 1976) provides many examples of the importance of motivation and behavior to job performance and therefore to an employee's contribution to an organization.

Eurich states, "Today the notion of lifelong education has become a public and private goal and a necessity" (ibid., p. 20).

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In defense of his statement Eurich (1985) recognizes adult students by three categories: professional and technical, clerical, and finally managers and administrators (p. 21). Education and training have become an absolute necessity if the business world is to keep up with the changes created due to the computer world (Eurich, 1985; p. 22). This concern for education and training is creating a focus which requires institutions and industries to form linkages in order to provide education for employees (Moser and Seaman, 1987; p. 223: Craig and Evans 1981; Darkenwald, 1983; Peterfreund, 1982; Schuster, 1978). In Naisbitt's (1982) words: "In education we are moving from the short term consideration of completing our training at the end of high school or college to lifelong education and retraining" (p. 64). A study conducted by Maxwell and O'Hara (1979) found a change in the nature, responsibilities, and characteristics of existing jobs which indicates the seriousness of Naisbitt's statement for lifelong education and retraining, and Baumgardner (1981) extends this concept by stating "the office worker of the eighties must be equipped to function in a systems environment" (p.10). Ellis (1982) supports the necessity for automated equipment for anyone specializing in written communication. Bushen, Benson, and Laundroche (1983) appear to identify the why with respect to the concern for lifelong education and training in business:

> Returning graduates are reporting that they need word processing and computer skills, in addition to their secretarial and clerical skills, in order to acquire and to advance on their jobs in today's market (p.5).

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The Educational/Training Situation:

It is important according to Bruner (1963) that curriculum

and training materials be structured:

> The basic thing that can be said about the human
> memory, after a century of intensive research, is that
> unless detail is placed into a structured pattern, it
> is rapidly forgotten. Organizing facts in terms of
> principles and ideas from which they may be inferred is
> the only known way of reducing the quick rate of loss
> of human memory (p.25).

Tuchman (1970) gives support to the concept of structure.

> A curriculum cannot consist of an infinite or near
> infinite series of disconnected sequences. Each
> sequence can take additional meaning by being grouped
> .and connected to other sequences which relate to it not
> only in terms of goal objective, but in terms of the
> nature of skill or competency or knowledge which the
> sequence is an attempt to facilitate (p.156).

Rowntree (1982:21) offers a graphic picture of educational

technology in curriculum design (Appendix A) which identifies the

importance of outside constraints to the development of purpose,

design, evaluation and improvement. Dick and Carey (1978:9)

offer education a systems model for instructional design

(Appendix B) which supports the concern for "entry behaviors and

characteristics" while creating a process for revision within the

design process. MacDonald (1965) and Royce (1964) identify

models that represent subsets of a set defined by a predefined

system (Appendix C). Bloom in his book <u>Human Characteristics and</u>

<u>School Learning</u> (1976) offered evidence that learners can master

that which is required, given time. Bloom gives us a model

(Appendix D) which identifies the components required to create a

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learning task. These models when combined offer to adult education a focus which has its beginnings from a system process but includes the effort, time, and commitment of the trainee. These authors, combined with the insights of Knowles (1972), have begun to outline what is known to educators as "Andragogy". (Andragogy is the art and science of assisting adult learners and is derived from Greek, (Andros - meaning 'man' and 'agogos' meaning 'leading')).

A significant portion of this study relies on a concept outlined by Houle (1963) who, by focusing on the individual, attempted to determine the who, what, where. when, and why, of the adult learner. According to Houle, "If we are ever to understand the total phenomenon of continuing education, we must begin by understanding the nature, belief, and the actions of those who take part to the highest degree" (1963:10).

There is a need to determine the meaning of continuing education and to understand the total phenomenon of inservice education. Houle (1963) through a process of in-depth interviews attempted to develop a process to facilitate the understanding of inservice education. Pansegrau (1983) in her study on teachers' perspectives on inservice education demonstrated the importance of perspectives in attempting to define the quality and effectiveness of inservice programs. Perceptions about training give one form of evaluation in an attempt to understand what is happening to any teaching/learning situation. Kaufman and English (1979) support the idea of external needs assessment in

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identifing the skills and knowledges necessary for educational design and effort (p.78). Fahy (1988) in his article "Treating Students as Customers" not only gives support to the concept of acknowledgement to needs but also makes statements regarding the need for a strong knowledge base, a commitment to service, and a willingness to learn and change (p.4). The adult learner has a competitive market available from which education and/or training may be chosen. Alternatives and funding support from such processes as Canadian Job Strategies are forcing all involved in education and/or training to provide a competitive product with the philosophy that matches a corporate environment (Fahy, 1988; p.3). There is support for the concept that learners must be satisfied with content, process, and relevance of education and/or training and that the value of such endeavors must meet the needs of the learners (Bean & Metzner, 1985; Scharf, 1984; Fahy, 1986; Fahy, 1988).

Human attitudes and behavior are molded according to perceptions. As stated by Johnson (1987), "They provide the bases for understanding reality - objects, events, and the people with whom we interact - and our responses to them"(p.206). Johnson further states that:

> Knowledge of employees' and other stakeholders' perceptions helps administrators to revise educational policy and change individuals' experiences in educational organizations, and knowledge of perception theory may provide an avenue for directly improving educational leadership and practice (p.207).

The literature (Blake & Ramsey, 1951; Litterer, 1973; Kelly, 1980; Forgus & Melamed, 1976; French, Kast, & Rowenzweigh, 1985;

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Harvey, Weary, & Stanley, 1985; Johnson, 1987) contains reference to the importance of understanding perceptions because perceptions assist in the understanding of organizational behaviors. Shaver (1981) believes worlds to be constructed due to the data collected through senses (p.83). This seems to imply that perceivers actively form impressions from stimulus (Johnson, p.207).

Summary:

Change is affecting society and technology is one major factor which is forcing business and education into developing methods which will create effective and efficient adaptability. The business community will be required to use training as a means of harnessing technology to create a tool which can be used to make employees and ultimately businesses more productive. Educational agencies will be required to develop methods which will help society keep up to change, which means that training must become more effective, human, and relevant.

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III. DESIGN OF STUDY

Background:

Since change is inevitable and pervasive it was important to understand how change is affecting the business community. More importantly it is important to determine the impact technology is having on change processes. To focus on change and the impact of technology it was decided in this study to determine the perception of stakeholders regarding the effectiveness and efficiency of training processes used by Edmonton area businesses. The assumption was that technology has been changing so quickly that it has forced businesses to create training mechanisms to adapt. This study was designed, therefore, to determine the perceptions of employees concerning the effectiveness and efficiency of existing technological training, the impact technology is having on the training environment, and likely future directions of training.

Design of Study:

The study was intended to determine perceptions of company employees on technology and office technologies training and the impact technology was having on policy development and implementation. Concerns were addressed with respect to the philosophy used in policy formation and implementation. Data was sought to determine the principles being used to develop training

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policies and to determine the procedures being used to implement training. The research questions addressed were:

    I.   To what degree do companies follow a Corporate Policy (written or informal) in determining training needs and in identification of training priorities?

    II.   To what degree are corporate policies regarding training actually used to define the parameters within which training is to occur?

    III.   To what degree is training perceived to be affected by or driven by technology?

    IV.   Who sets corporate policies regarding training?

    V.   How is the need for training established and what is the relationship between training content and predefined needs?

    VI.   Who is responsible for maintaining the cost-effectiveness of training and for selecting training mechanisms?

Problems occur in organizations due to the fact that they are structured using a hierarchy with each hierarchy developing its own mechanisms for survival within parameters of corporate policy. Size of companies plays a role in policy development and implementation and therefore presents a problem when attempts are made to articulate the "best" policy governing phenomena such as technology. The literature presents another problem as most literature in business and education deals with quantitative analyses which may not apply to local conditions or realities.

The overall goal of the study was to understand and clarify business philosophy regarding technological training in Edmonton in 1987. Also, it was important to be able to infer how well

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present training and practices compare to good training principles in order to develop a coherent vision of possible future business training practices.

Methodology:

In her study, Pansegrau (1983) used a concept known as "symbolic interactionism" to "permit the researcher to determine what Bruyn (1966) terms inner perspective, or the understanding of people from their own frame of reference" (1983:6). Symbolic interactionism according to Denzin (1978) and supported by Pansegrau (1983) involves the researcher in one or more activities such as: participant observation, unobtrusive methods, historical-comparative techniques, interviews, grounded theory constructions, and triangulation (the combination of research methods). Qualitative processes, defined as the naturalistic method of inquiry, are used "to develop theories which explain the feelings, emotions, definitions, attitudes, and actual behaviors of those observed" (Lindesmith, Strauss, and Denzin 1977:31) It was believed that employees relating their perceptions regarding training were using this concept of "symbolic interactionism" as they related perceptions based upon their role and the experiences obtained while completing daily routines. Communication, therefore, would be based upon daily interaction within corporate structure. A mixed study methodology (qualitative and quantitative) which can be supported from review of the literature was therefore considered to be

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appropriate and desirable for determining the perception of employees regarding the effectiveness and efficiency of technological training and the impact technology is having on training processes.

The study involved businesses in Edmonton, Alberta, Canada. A selection of convenience consisting of one company from the categories small, medium, and large was used to pilot the interviewing techniques of the study. One company from the categories small and medium and two companies from the category large were identified. The three categories were chosen as the population target needed to complete the findings of this study and were identified from the Edmonton Chamber of Commerce description used in defining the size of businesses operating in the Edmonton Area.

An interview protocol was designed to create consistency in the questions asked of each participant. The mechanism was used to assist in determining the company's and the trainee's purpose for training, the method of selection used by the company to determine the employees to be given the opportunity to train, and the ultimate benefit received by the company and the trainee from the training. Future needs of the company and the trainee identified as a result of recent training or through long-term goal planning were also addressed in an attempt to identify the long-range direction of company training. The selection of trainees to be interviewed was based on the approval from a

Corporate Executive Officer or designate.   Data were gathered regarding the following:

1. Demographic information of the company
2. Structure of the organization
3. The existing policy on corporate and office technologies training
4. The identified needs for corporate and/or office technologies training
5. The benefit received by the company and the trainee
6. The dissatisfaction concerning the training as perceived by the company and the trainee
7. The cost of training involvement by company and trainee
8. Future needs for training
9. Process to evaluate the effectiveness of the training

The study was conducted as follows:

1. Goals were set and questions developed.
2. Instruments were developed.
3. Questionnaire was validated.
4. Participants were identified.
5. Questionnaire was administered and analyzed.
6. Interview protocol was designed.
7. Interviews were completed.
8. Analysis of data was completed.
9. The study was formally presented.

The focus of this study was on the perceptions of trainees regarding technology and recent training programs or courses taken within the technology area.   The questionnaire was intended to give direction and create consistency while providing initial input to the interview process.   It was important to be able to define a time parameter in order to obtain CEO permission to utilize employee time as time is a direct cost to corporate productivity.   If during the process of interviewing an employee emphasized a specific topic of interest the information was used to develop scope and create clarity concerning specific

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perceptions.   The data were gathered and analyzed to give specific information on the following questions:

I.   To what degree do companies follow a Corporate Policy (written or informal) in determining training needs and in identification of training priorities?

II.   To what degree are corporate policies regarding training actually used to define the parameters within which training is to occur?

III.   To what degree is training perceived to be affected by or driven by technology?

IV.   Who sets corporate policies regarding training?

V.   How is the need for training established and what is the relationship between training content and predefined needs?

VI.   Who is responsible for maintaining the cost-effectiveness of training and for selecting training mechanisms?

The questionnaire was designed and validated with a group of colleagues consisting of a psychologist, two instructors from Business Careers program at Alberta Vocational Centre, Edmonton, who were directly involved in entry level training programs, two students who were currently taking training involving technological skill development at Alberta Vocational Centre, Edmonton, and a businessman from the private sector. The instrument was revised based on input from this group and administered to one of the large companies that agreed to participate in the study. As there was positive reaction to the questionnaire and 100% of the participants returned their questionnaire the instrument was then given to all parties

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involved in the study. The responses to the questionnaire were then analyzed to determine the content of the interviews process.

The interview protocol (Appendix G) utilized an open format as participants were asked/prompted to explain in detail the degree to which technology was affecting their environment. All participants agreed to the use of a tape recorder and all discussions were taped except for two interviews which were lost due to technical problems. The interview process sought data which added scope and depth to the questionnaires. Participants were given the opportunity of declining to participate in the study just prior to interview (none did). All participants requested that their names not be used in the study but agreed that quotations and paraphrases could be used if categorized only according to their corporate role (eg. CEO/Executive, Manager/Supervisor, Staff). Confidentiality and unanimity was guaranteed to all participants.

The questionnaire data were analyzed using the SPSS frequency procedure. Once this information was available the items were then ranked from strongest to weakest agreement, in order to identify areas as high and low consensus. The interviews were analyzed to clarify and expand the questionnaire findings.

Summary:

The study was designed to determine employees' perceptions of the effectiveness and efficiency of technological training and

the impact technology is having on the training environment.
Utilizing both qualitative and quantitative approaches data were
gathered to assist in understanding the business philosophy
concerning training in Edmonton in 1987.

IV.   ANALYSIS OF FINDINGS

Introduction:

This study addressed the perceptions of CEO's/Executive's, Manager's/Supervisor's and Staff regarding training, by seeking the perception of these groups regarding the effectiveness and efficiency of present office technology training. The study focused on the who, what, where, when and why as they pertain to office technology training. The questions addressed were:

I.   Do companies follow a Corporate Policy (written or informal) in determining training needs and in identification of training priorities?

II.   To what degree are corporate policies regarding training actually used to define the parameters within which training is to occur?

III.   To what degree is training perceived to be affected by or driven by technology?

IV.   Who sets corporate policies regarding training?

V.   How is the need for training established and what is the relationship between training content and predefined needs?

VI.   Who is responsible for training costs and the selection of training mechanisms?

This study was an attempt to address training perceptions within the specific area of office technology training. A mixed qualitative and quantitative study approach was used to gather data. The environment chosen for this study was from a Canadian business population in Edmonton, Alberta. Companies from each of the categories small, medium, and large were chosen and invited

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to participate in the study. Employees were then given the opportunity to share their perceptions regarding training in office technology.

An interview protocol was designed which would create consistency in the questions asked of each participant. The mechanism assisted in identifying the company's and the trainee's purpose for training, the method of selecting trainees, and the ultimate benefit received as a result of the training. The study received 100% response to the questionnaire and participation in the subsequent interview.

This chapter presents findings of the study, with emphasis on areas of high and low consensus. (See Appendix E for detailed presentation). The differences in opinions expressed between the levels within the organizations studied are addressed to allow for insight into present and future considerations that must be understood to facilitate the change to technology use.

Findings:

Policies and Procedures:

Eleven of eighteen participants affirmed that training policies did exist and controlled the direction of the training environment (Appendix E, Table 1, Items 1.1 and 2.1, Page 56). Interviews with all participants revealed that policies guided training practices, but that respondents felt that due to the speed at which technology was changing it was impossible to have current policies relate perfectly to current technological

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training demands.   This was reinforced by fifteen of the participants who gave support for the statement that technology was having a serious impact on present policy development and all participants supported the fact that technology was having a definite impact on future policy considerations (Appendix E, Table 3, Items 3.1 and 3.2, Pages 59,60). Policy, in tail-wagging-the-dog fashion, was thus driven by technology.

In conversation with participants it was clear that technology developments in the micro-computer field had the most serious impact on policy considerations.   The larger the organization the more concerned companies were with the concept of how micro technology was to fit into an atmosphere already dominated by mainframe technolog . Upper-level line participants believed micro technology would eventually become the link which has always been absent in the concept of total decentralization. Policies were being considered by medium and large companies, in this study, which would assist in the transition to microcomputer utilization.   The participants from the small company, in this study, simply stated that without computer technology the firm would not be competitive.   Although a direct policy concerning training was not evident in the small company it was implicit in the view stated by participants that without technological training a person would not be considered employable. Policies, it seems, were informal in smaller company operations and the informal structure was given parameters from outside competitive pressures.

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At each level from the organizations participating in this study it was evident that current policies, whether formal or informal in design, are considered largely ineffective and inefficient (Appendix E, Table 3, Items 1.2, 1.3, 2.4 and 2.5, Page 59). Those respondents who stated policies were not too effective or efficient revealed in the interview that this was because of the rapid increase in the use of technology over the past two years. One executive of a medium-sized company explained in the interview that his company was so concerned with how policies should affect the direction of current and future training that corporate attitudes and values had to be addressed prior to policy review consideration. To be both effective and efficient, according to this executive, change had to be accepted throughout the organizational structure. The data revealed that change had not as yet been totally accepted but the degree of personal and corporate value expressed because of training practices indicates support for the understanding of corporate attitudes and values. (Appendix E, Table 2, Items 4.6 and 4.7, Page 57). This acceptance of corporate attitudes and values, according to this executive, is the key to success sought by his company. Current policies, therefore, will remain ineffective and inefficient as companies look to the future for the answers to policy formation.

Nine of eighteen respondents achnowledged that specific procedures existed which outlined parameters for training (Appendix E, Table 1, Item 2.1, Page 56). The interview

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process revealed that all participants had to follow some type of formal process in order to apply for and receive training. In the interview it was determined that there had to be a requirement or identified need, there had to be a request from a supervisor or manager, and finally approval was necessary from a supervisor or manager. Seven out of the eighteen believed the procedure was a shared acknowledgement between the employee and a supervisor or manager (Appendix E, Table 1, Item 2.2, Page 56). Three out of eighteen believed that the supervisor or manager identified training requirements (Appendix E, Table 1, Item 2.2, Page 56).

There was concern from staff over a perceived lack of input to the acknowledgement of training process (Appendix E, Table 3, Item 4.1, Page 61). In conversation with all participants it was determined that employees had some input to training requests but it was definitely a supervisor or manager who finally determined the training content. Six of the participants felt that in today's technological society the final decision for training had to rest with the individual...it was a matter of what is required for the world of work.

Two executives felt that procedures were neither effective nor efficient while most managers/supervisors believed procedures were effective but not efficient (Appendix E, Table 3, Items 2.4 and 2.5, Page 59). In the interview process this lack of agreement was pursued. The lack of effectiveness and efficiency was due to the fact that technology is changing so quickly that

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companies find themselves in a cost process that is increasing with each change in hardware and software. Managers/supervisors agreed with the executives but expressed the belief that current procedures were effective given the current market environment concerning training and the speed at which technology was changing. Upper-level line participants believed this process could continue to exist until policies and procedures could address where companies wanted to be in the future with respect to their individual markets and within their own organizational structure. It was evident, however, that lower level staff participants believed procedures to be fair and the interview revealed that all participants had a form of "trust" in the procedures being used and in the identification and offering of training to allow staff the opportunity to succeed within their chosen careers. All participants stated that for training to be effective and efficient support from upper-level management must be visible and totally believed.

It seems from the information that policies and procedures are used to define, to control, and to determine who is to participate in training. The problems experienced appear to stem from the speed at which technology is changing and from the simple fact that microcomputer technology has only affected office technology to a great degree within the past two years. (Training is as effective and efficient as possible under the circumstances.)

Impact of technology on Office Environments:

Sixteen of the eighteen participants stated that technology was having a great impact on present training needs and fourteen of the eighteen believed that technology would cause more training to be required in the future (Appendix E, Table 3, Items 3.1 and 3.2, Pages 59,60). Upper-level line participants gave the most support to the fact that training will be a major requirement of the future (Appendix E, Table 3, Item 3.2, Page 59). Both line and staff participants acknowledged the fact that organizational structures were changing. Staff also stated that in the future line personnel must be trained in and understand technology. The executive/CEO level did not perceive the change in organizational structure to be due to technology. Managers/Supervisors, however, did believe the structure to be changing and during the interviews this organizational level gave examples of how technology was eliminating the middle management role in organizational structure. It was revealed in the interviews that employees at all levels were seeing a change in their roles and responsibilities. All participants believed their work environments were more interesting and carried more responsibility than in the past. A concern expressed by one executive of a medium-size company was that in the past middle management was the area used to train and develop corporate executives and that without this training area executives of the future may not have a total corporate philosophy or identity.

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The executive believed this could be a serious problem for future corporate design and he also stated that it was a present concern to many of the line staff currently having aspirations of advancement.

It was clear these participants believed that without core technical training people would not be able to participate in office routines of the future. Fifteen of the eighteen believed technology is affecting current promotion and recruitment processes (Appendix E, Table 3, Items 3.6, 3.7, 3.8 and 3.9, Pages 60,61). All participants interviewed believed without technological skills of some type people would not be employed or promoted. Thirteen of the eighteen believed that entry-level employees would be required to have technical skills. In the interview it was revealed from all participants that word processing was probably the mandatory skill of all entry-level personnel. The other skills identified by the participants as creating employment possibilities were spreadsheet manipulation, database design and manipulation, and the new area of desktop publishing. In the interview participants of medium and large companies confirmed the fact that desktop publishing was expected to definitely be the cost-effective process of the future and that microcomputer manipulation was a compulsory entry-level skill. All participants felt that it was not the configuration of hardware that was important but the understanding of software applications. Managers and executives were expected to understand the technology and to be able to manipulate data using

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technology processes. Fourteen of the eighteen participants believed the supervisor/manager level would be required to have technical understanding while only ten of the eighteen believed executives would be required to have technical understanding (Appendix E, Table 3, Items 3.8 and 3.9, Page 61). In the interviews all participants believed executives were more involved with policy development, planning, and corporate promotion and that executives would ask others within the organization to compile the information they needed to be successful. Executives, during the interview, supported this statement; yet, when asked if they would like to be able to use technology with more competency they all expressed a strong desire to know more and to be able to manipulate technological equipment. The executives' limitation was always identified as a "lack of time and adequate needs specific training". All participants did, however, state that executives of the future would rely more on their personnel for accurate and timely information.

It was evident that technology is having an impact on organizational structure, individual roles and responsibilities, recruitment and promotional criteria, corporate expectations, values and attitudes, and on future training considerations.

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Identification of Training Needs and Priorities:

Fourteen of the eighteen believed they have input in determining training needs (Appendix E, Table 3, Item 4.1, Page 61). All companies place a high level of responsibility on individuals for developing their own technical competencies. In the interview all participants stated that individuals must have a high degree of commitment and be willing to spend the time necessary to become proficient in the technological programs, especially if one aspires to promotion. Individuals must be able to learn and must if necessary pay for all or a portion of the training requirements identified. Fifteen of the eighteen, however, did state that companies were placing a high level of responsibility on themselves for the training needs being identified (Appendix E, Table 3, Item 4.2, Page 61). This responsibility has been expressed in companies' willingness to release employees for training while some companies exhibited a willingness to pay for the complete training required. Data from the interview and the questionnaire showed that the larger the organization the more it was willing to pay for the training of its employees.

Practice time to develop newly acquired skill was one major area of concern expressed by participants. Although eleven of the eighteen stated support for practice time they all expressed in the interview that time was one variable that none of them could change and to the company time is money. Therefore, all seemed to consider the application of the training to their daily

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routine as the only practice time. What all expressed was a concern for training to be more specifically designed to suit their daily routines. Staff participants did, however, state that extra hours of practice were required to keep the skill level current. All participants believed their training to be of personal value and of value to the corporation (Appendix E, Table 2, Items 4.6 and 4.7, Page 62). The overall effectiveness of training programs (their ability to "do the right thing") was considered to be very high by all participants. Only fourteen of the eighteen, however, believed the overall training to be efficient (their ability to "do things right") (Appendix E, Table 3, Items 4.8 and 4.9, Page 63). The four participants rating efficiency very low believed training did not meet their daily routines; therefore, they believed most of their training was never used efficiently. In the interviews participants stated that efficiency could not be truly judged until companies were totally automated and the applications of the programs and training were totally implemented. Efficiency they believed was a study for the future, especially with the rapid changes occurring in all companies and within all levels of organizations.

> The initial identification of training requirements seems to be a shared venture. Final identification for training, however, rests with upper-level line personnel and this seems to be creating problems with the perception of overall efficiency. Identification

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of training that meets specific daily routines appears
to be a criterion which could create greater efficiency
and possibly more effectiveness.

Training Design:

Fifteen of the eighteen participants stated that training
content was defined by objectives (Appendix E, Table 3, Item 5.1,
Page 63). In conversation with the participants all believed
that the training was designed to meet specific needs even when
the program did not specifically state the objectives to be
learned. The major objection to training content was the fact
that needs identified did not relate specifically to daily
routines, for those involved within the training sessions usually
carried out different daily operations or varied routines
throughout the day. Thirteen of the eighteen believed that
training programs did meet the objectives stated (Appendix E,
Table 3, Item 5.2, Page 63). The interviews revealed that some
courses could have been designed more for the specific tasks of
those attending the training program and in these courses they
felt the objectives for taking the training were not met even if
the course objectives were accomplished. Fifteen of the eighteen
believed training programs were designed with acknowledgement of
personal and company needs and they also believed the training
met the needs of both the individual and the company (Appendix E,
Table 3, Items 5.4 and 5.6, Page 64).

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It was evident that evaluation processes had been carried out and were the basis for their statements regarding success (Appendix E, Table 1, Items 5.7 and 5.8, Page 56). Thirteen of the eighteen stated that their training programs were either evaluated using a written or an oral format (Appendix E, Table 1, Items 5.7 and 5.8, Page 56). In the interviews participants stated that they believed evaluations were necessary to determine the acceptance level of the training and they believed that all parties involved should learn from the evaluation process.

The questionnaire showed support for training by companies with the acknowledgement that companies pay for training either in-house, through private companies, or through public institutions. In conversation with all participants it was found that no one model for training was the "best" but all believed that training in the future had to be more "needs specific". The participants from medium and large companies believed in-house training met more of the specific needs of their departments but definitely in-house had to look to the concept of support services due to the rapid change being forced on all levels within organizations. Private companies employing a strong degree of needs analysis in their marketing processes and offering service support were definitely in demand when companies were identifying their present training requirements. Public institutions (universities, colleges, and technical schools) seem to be supplying little in the way of corporate opportunity and many of the participants interviewed believed public institutions

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were not keeping current and their instructors were not up-to-date with respect to technological applications. This belief was consistent with the Moser and Seaman study (1987). All participants did believe, however, that public institutions did play a role in meeting individual needs at the present time, but believed that unless institutions became more flexible and adaptable to the needs of their clientele, the future training would be out of the hands of the public institutions all together.

Content it appears is designed based on stated objectives and is evaluated upon completion of the training program. A concern was expressed about the lack of content and practice that is specifically designed to meet the needs of daily activities. Currently, it appears, courses offe content designed to meet the ability or application of particular software and generally meet the routines of the environment being addressed.

Summary:

The findings give strong support for the statement that technology is affecting the world of work. Data were found to support the statements of Naisbitt (1982), lend support to the Botkin study (1982), and support Porter's statement that "There is no doubt that the Information Age has arrived for the world of work" (1986, p.9). There is considerable adjustment occuring in

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the business community and technology seems to be directing the change process in the business community of Edmonton, Alberta. It was evident that the larger organizations were being affected more than the smaller organizations; however, all organizations visited were utilizing technology. The changes occuring supported the statement made by Umbaugh (1985) that technology causes change. It was evident from the questionnaire and the interviews that companies were looking to the future before considering the directions required to implement technology and train personnel. The speed at which technology is forcing businesses to adapt gives further support to the views of Toffler (1971), supported by Smith (1986), when they identified change as a norm. It appears in Edmonton, Alberta, planning for change as a way of life, a process acknowledged by Smith (1986, p. 21), has begun to dominate the business community. Companies are definitely following policies and procedures which currently cannot address the present demand for training. However, the acceptance of the policies as guidelines has left the managers and/or supervisors with considerable flexibilitiy. The overall support given to the statements of personal value and corporate value received as a result of training indicates the acceptance by these participants for change and its driver, technology.

Training needs and the identification of needs priority appeared to be a shared responsibility with managers and/or supervisors having the final approval as to who would be trained. Individuals must be willing to commit personal time and money in

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the effort to gain technical competency. The commitment and the investment visible in the Edmonton community paralleled the study conducted by Moser and Seaman (1987). The larger the company the more they are willing to participate in cost and time factors related to training. Training needs did seem to be focusing on the utilization of microcomputer technology. The larger the organization the more concentration on how the microcomputer environment could function in an already existing mainframe environment. This problem was causing the larger organizations to spend considerable time on "strategic planning". The companies involved in this study expressed satisfaction with their current implementation processes and believed the future could be more successful as the companies begin to realize how the fit is to occur.

Some views of the respondents have implications for training as an adult education endeavor. Although participants of this study believed no one mechanism was better than the other, the larger the organization the more the participants supported the concept of in-house training. This support was also found by Moser and Seaman (1987) and was supported throughout Eurich's work (1985). All participants of this study emphasized the importance of employee needs and motivations to successful training programs. Their emphasis was supported by many ot ers (Darkenwald, 1983; Lusterman, 1977; Nadler, 1981; Weisnstein, 1976; Moser and Seaman 1987; Eurich, 1985) and this emphasis should send a message to all educational institutions and private

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training organizations. As Fahy (1988) noted needs analysis is part of the model which will create success for course and/or program offerings. The support for needs-based design of courses which follow specified objectives that address the concerns of the company and that can be evaluated for the purpose of adaptability and change lends support to educational curriculum models defined by Royce (1964), MacDonald (1965), Bloom (1976), Dick and Carey (1978), and Rowntree (1982). What is being stated is that for education and/or training to be successful knowledge of content cannot be the only variable identified or understood by program and/or course authors; the model must also include knowledge of the clientele, the environment, the values and attitudes of the organization, the desired outcomes of the organization and the participants, and the instructor's knowledge base, personality characteristics, and knowledge of adult learning theory.

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V. CONCLUSIONS AND RECOMMENDATIONS

Introduction:

The study provided evidence that technology and the need for technological training was affecting the business community of Edmonton, Alberta. Technology was affecting policy development with respect to training, recruitment, and promotion. Although present policies were perceived by some staff to be inefficient and ineffective, companies were adapting to the challenge and training was perceived to have resulted in both personal and corporate value. Due to the speed at which technology is changing and because of the microcomputer impact on office technology over the past two years companies' final evaluation of efficiency and effectiveness will, it was believed, be determined in the future. Companies were looking to the future and they were participating in strategic planning and needs analysis in attempts to create the most effective and efficient fit for technology and the change it brought. The business community in Edmonton, Alberta, utilized technology to keep competitive and to address the cost factors which were due to the rapid change in business conditions occurring as a direct result of technology itself.

Conclusions:

Companies in the Edmonton area used policies to guide their training process. The speed at which technology is changing was

causing serious problems in the identification of present and future training needs. Companies were being forced to plan based on training being a major part of philosophy, values, attitudes, and budget. All levels within organizational structure were being required to develop technical competency which have and will continue to have an affect on their roles and promotional opportunities. The information showed evidence that policies and procedures were used to define, to control, and to determine who is to participate in training. The problems being experienced developed as a result of the speed at which technology was changing and from the simple fact that microcomputer technology has only affected office technology to a great degree within the past two years.

It was evident that technology was having an impact on organizational structure, individual roles and responsibilities, recruitment and promotional criteria, corporate expectations, values and attitudes, and on future training considerations. Individuals were required to take responsibility for their own technical development. Larger corporations were willing to participate in this development but still required individuals to commit time, energy, and money to the training process.

Training content was designed based on stated objectives and was evaluated upon completion of the training program. A concern was expressed about the lack of content that was specifically designed to meet the needs of daily activities. Currently courses offer content designed to meet the ability or application

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of particular software and generally meet the routines of the environment being addressed but did not address each participant's specific needs.

The initial identification of training requirements was stated to be a shared venture. Final identification for training, however, rested with upper-level line personnel and this seemed to be creating problems with the perception of overall efficiency. Identification of training that meets specific daily routines appears to be a criterion which could create greater efficiency and possibly more effectiveness.

A parallel can be drawn between the findings of the Seaman and Moser study (1987) and the findings developed from the Edmonton companies involved in this study. In-house training was believed to be more effective and efficient due to its needs specific design. In-house training was also more evident in larger companies and the cost factors for this type of training were accepted as the responsibility of the company. Companies in the Edmonton area also supported private training programs that employed a high degree of needs identification (whether formal or not) in their program offering. Needs identification programs refer to the ability of the program to meet specific needs of clientele. Private company training programs were the second largest area of support identified by Seaman and Moser (1987). The Edmonton business community was thus paralleling the training process being developed by some of the largest organizations in North America.

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Support can be stated for educational and training
environments becoming more needs specific in their marketing,
design, and implementation of programs and courses. Curriculum
which addressed specific needs of clientele was accepted as being
effective and efficient and was perceived to address both
personal and corporate needs of the learner.

Recommendations:

Companies and employees must begin to realize the impact
technology is having on their structures. As more and more
responsibility is placed on individuals to do more or become more
efficient, the need for training grows. Before training can
become effective, however, companies must begin to acknowledge
all levels within the organization, but specifically those
involved directly with the change and the technology should be
consulted. The ability to communicate need and the ability to
communicate the direction technology is to take within the
organization are becoming major concerns for all organizations.
The focus for the future rests upon the values and attitudes held
by organizational members and success for the future rests in the
belief that the values and attitudes are the right ones. This
means that businesses must understand the needs and motivations
of their employees and these needs and motivations must be
acknowledged individually and within the specific corporate level
based on role and responsibility. Technology should be driven
and directed by goals and policies, not vice versa.

Training environments, whether public institutions, private companies, or in-house training programs, must become flexible and willing to adapt to the changes that are occurring both within the technology and because of the technology. As dictated by philosophies such as andragogy and others based on unique needs of adults, programs and courses must accommodate the needs of the individuals and take into account motivational processes of each individual. Offering programs and courses based only on content will not be effective or efficient and will result in unsuccessful longterm program and course development. Programs that are to be successful must take into account the behaviors of the learner, their roles and responsibilities within an organization, and the expected outcomes desired by the individual. Programs possibly should be developed that address the needs and responsibilities of each level within organizations. Especially, training programs may have to be developed that address the concern stated for "educating middle management". Training has become a necessity at all levels within organizations and the need for training will continue to be an important consideration in planning and budgeting-provided it is respectful of trainees' preferences and status.

Training programs and courses must become needs specific and learners must be considered as clientele. Instructors must not only have a strong knowledge of content but they must be committed to offering a service as defined by clientele, and must be willing to learn and change based on the speed of change being

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dictated by the technology. Knowledge of learners' behaviors, needs, responsibilities, and previously acquired knowledge, combined with an understanding of adult learning theory, must be a part of an instructor's development. Institutions willing to accept the changes and adapt to the challenges of flexibility and needs specific curriculum will be successful and continue to register students. Institutions may be required to change not only their curriculum but they may be required to change the total identification of degree-granting programs; especially at the masters and doctoral level where clientele identify their programs based on specific personal and corporate needs and not necessarily institutionally based needs or requirements.

Suggestions for Further Study:

Finally, further study should be undertaken to determine the degree to which Alberta's universities, colleges, technical schools, and other adult educational facilities meet the needs of their clientele and incorporate andragogic principles. Further studies should address the concerns expressed in this study with respect to program needs analysis, flexibility, content relevance, and instructor competency in both content and learning theories.

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APPENDICES

APPENDIX A
EDUCATIONAL TECHNOLOGY IN CURRICULUM DESIGN
BY ROWNTREE (1982)

CONSTRAINTS

1. PURPOSE

Analyse aims
Describe student
Suggest Objectives
Consider assessment /
evaluation

4. IMPROVEMENT

Review → Revise

2. DESIGN OF LEARNING

Analyse objectives
Consider subject matter content
Identify learning strategies
Decide teaching strategy
Select media material
Prepare experiences

3. EVALUATION

Try out
Analyse results

Use
Monitor results

CONSTRAINTS

APPENDIX B

SYSTEMS MODEL FOR INSTRUCTIONAL DESIGN
BY DICK AND CAREY (1978)
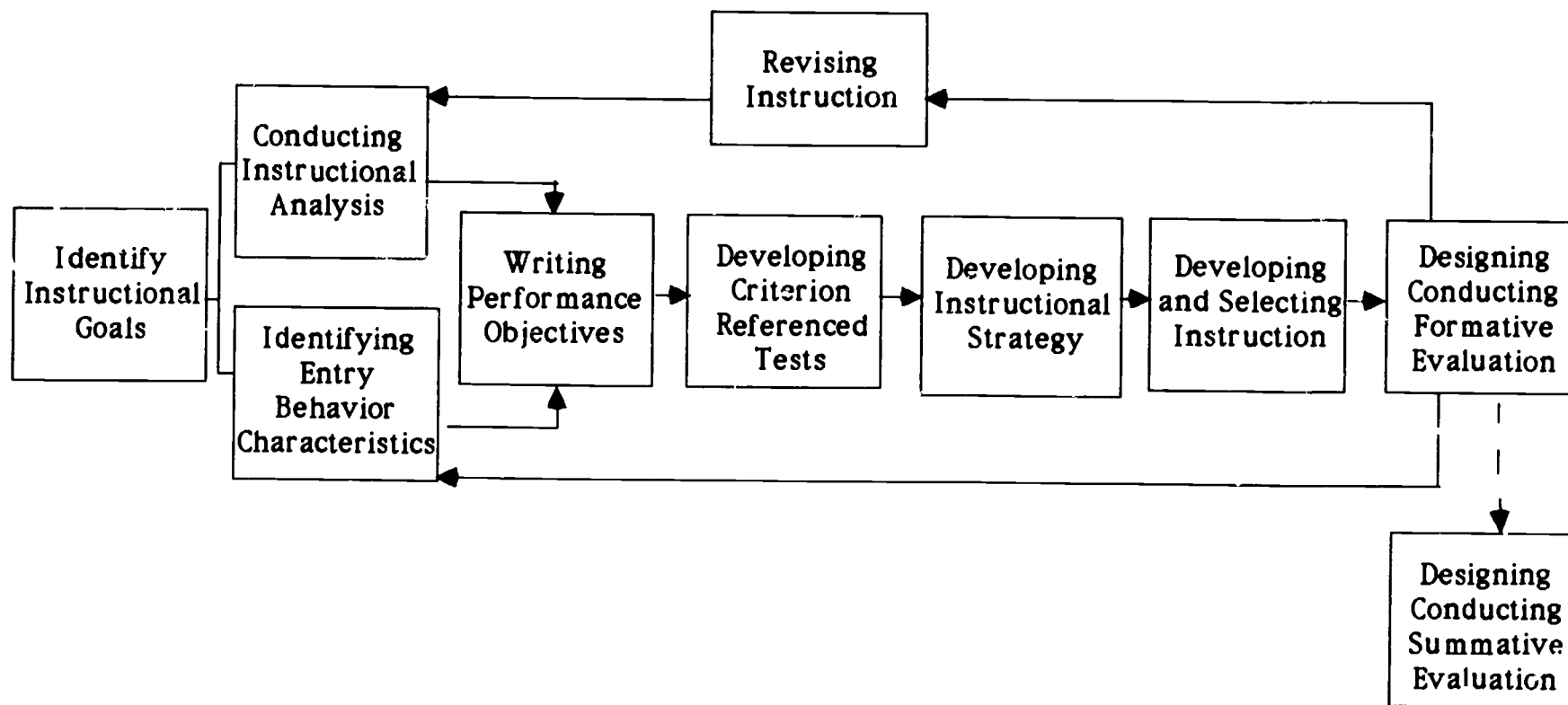
THE SCOPE AND FUNCTION OF CURRICULUM IN EDUCATION
BY MacDONALD (1965)

Curriculum

Teaching

Learning
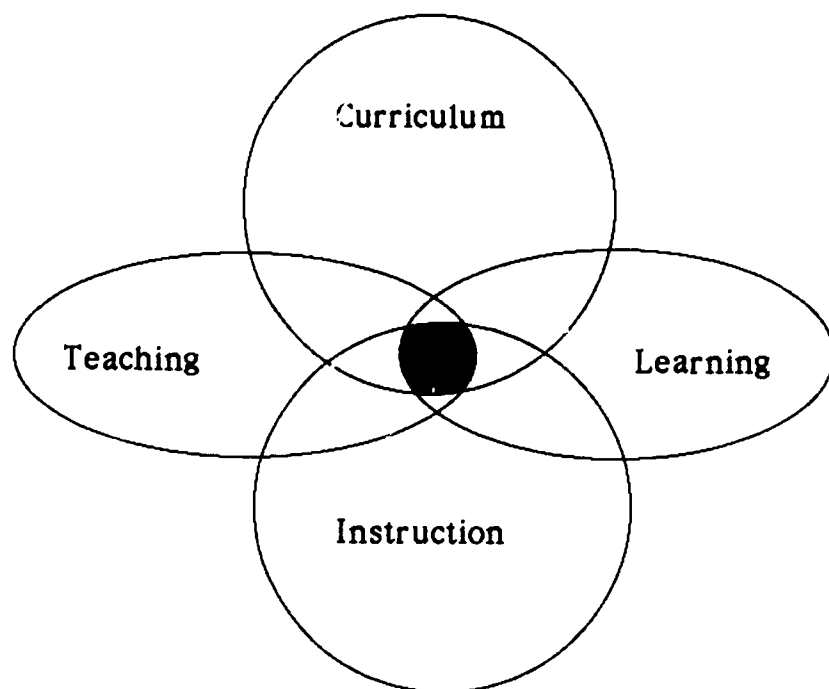
Instruction

CURRICULUM DESIGN BASED ON ROYCE'S FOUR PROCESSES OF LEARNING

BY ROYCE (1964)

REALITY
IMAGE

EMPIRICISM

REALITY
IMAGE

KNOWLEDGE

INTUITIONISM

RATIONALISM

TEACHING

KNOWLEDGE

KNOWLEDGE

LEARNING

KNOWLEDGE

REALITY
IMAGE

AUTHORITARIANISM

REALITY
IMAGE
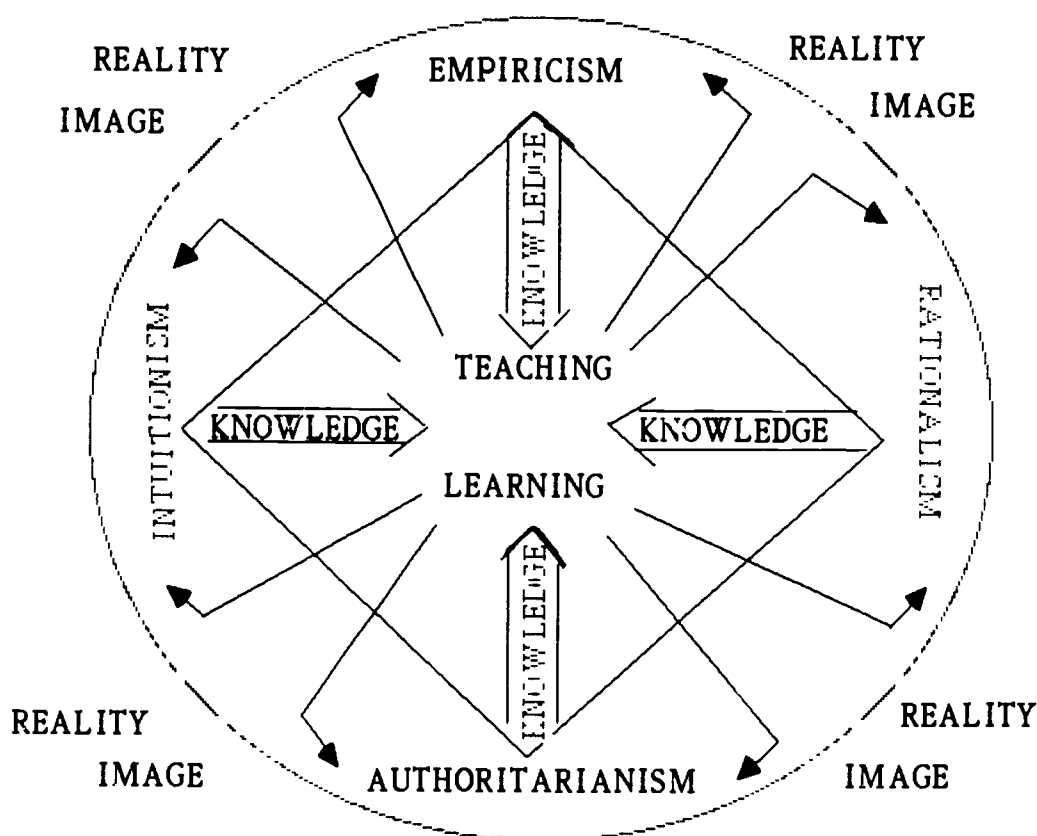
APPENDIX D

INSTRUCTIONAL DESIGN MODEL
BY B. BLOOM (1976)

STUDENT CHARACTERISTICS	INSTRUCTION	LEARNING OUTCOMES

```
COGNITIVE
ENTRY          ──►
BEHAVIOR
                         LEARNING   TASKS          LEVEL & TYPE
                                                        OF
                                                   ACHIEVEMENT

                                                   RATE OF
                                                   LEARNING
AFFECTIVE
ENTRY          ──►
CHARACTERISTICS
                                                   AFFECTIVE
                                                   OUTCOMES
```

QUALITY OF INSTRUCTION
- KNOWLEDGE OF CONTENT
- KNOWLEDGE OF LEARNING PROCESS
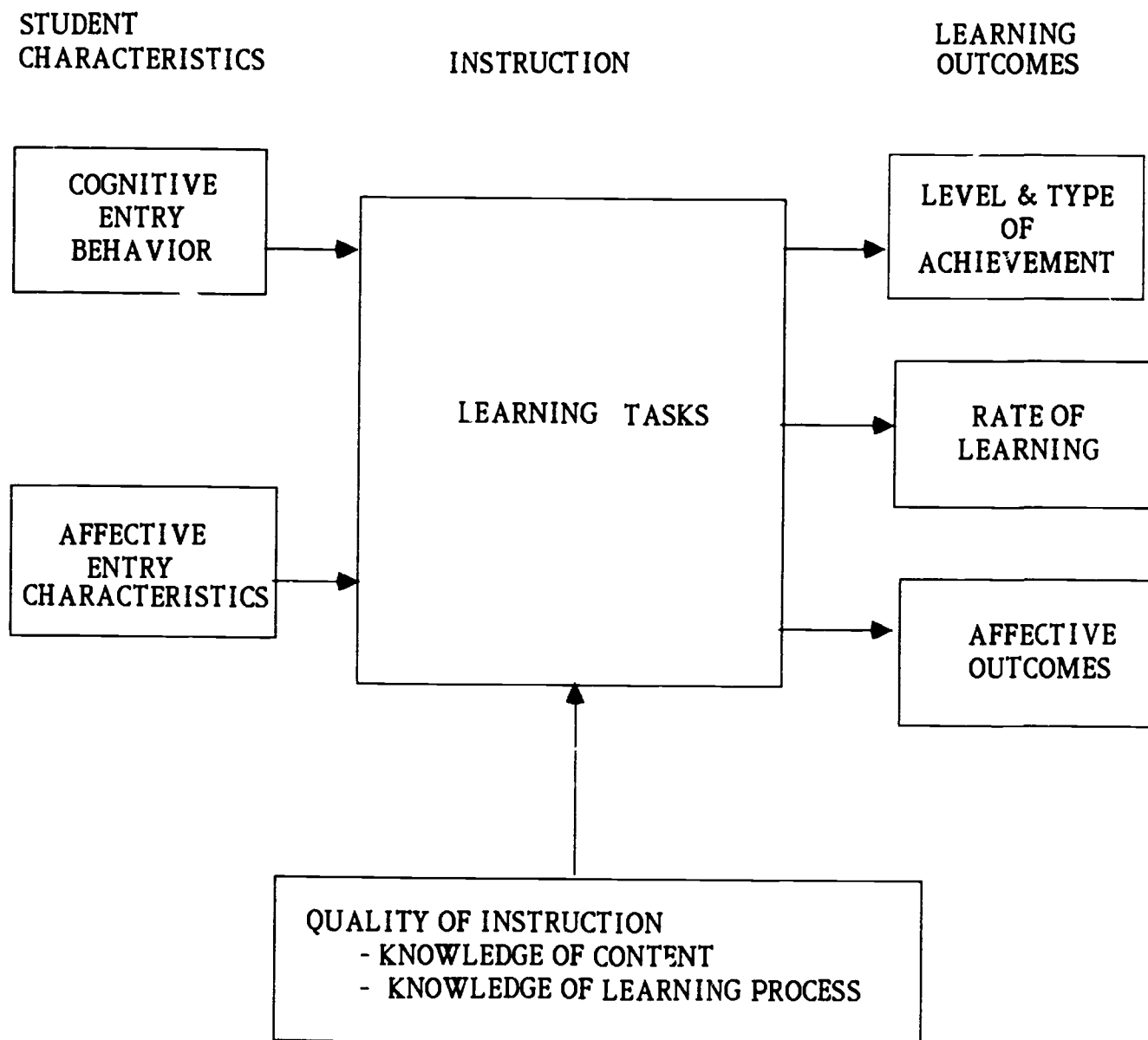
TABLE 1

QUESTIONNAIRE DATA SUMMATION
Questions not in Frequency Crosstab Analysis

1. Questions addressing the concept of Policies and Procedures:

Question	11	21	22	23
CEO/Executive	2Y 1N	2Y 1N	2S 1S/E	3S
Managers/Supervisors	3Y 2N	2Y 3N	4S 1S/E	5S
Staff	6Y 4N	5Y 5N	4S 5S/E 1E	8S 1S/E 1E

Eleven of the eighteen support the statement that training is determined by policy.

Nine of the eighteen state that there is a written procedure that must be followed when addressing training needs.

Ten of the eighteen believe the initial decision as to participation in training rests with the supervisor/managers. Seven of the eighteen believe the process involves both the supervisor/manager and the staff. One believes the decision rests with the staff member.

Sixteen of the eighteen believe the final decision as to participation is training rests with the supervisor/manager. One believes the final decision is a shared agreement while one other believes the employee holds the final decision regarding participation.

2. Questions addressing the concept of evaluation:

Questions	57	58
CEO/Executive	2Y 1N	1Y 2N
Manager/Supervisor	4Y 1N	2Y 3N
Staff	6Y 4N	2Y 8N

Evaluations are completed on the courses or programs taken by employees. Written evaluations appear to be the most common.

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TABLE 2

Ranking of Questionnaire Items based on Frequency Crosstabulation
Strongest Support to Weakest Support

ITEM NUMBER	MEAN	STANDARD DEVIATION
4.6	4.00	.69
4.7	3.94	.64
4.2	3.94	.94
3.2	3.94	.64
3.3	3.78	.94
1.3	3.72	.57
5.6	3.67	1.03
4.8	3.67	.59
4.1	3.56	1.10
3.6	3.56	.78
5.4	3.50	1.04
5.1	3.50	.99
3.4	3.50	1.15
2.5	3.47	.92
5.5	3.44	.92
3.8	3.44	1.15
1.2	3.44	.81
4.3	3.39	.92
3.7	3.39	1.20
3.1	3.39	1.04
5.2	3.33	1.03
2.4	3.33	1.23
5.3	3.28	.75
4.9	3.28	.96
4.4	3.17	1.04
3.5	3.00	1.33
4.5	2.89	1.08
3.9	2.83	.99

Strongest support given to items 4.6, 4.7, 4.2, and 3.2.

There is perceived personal value and corporate value being received through technological training.

There is a high degree of responsibility placed on individuals to develop better competency using office technology.

Office technology is having a high degree of impact on future considerations regarding policy developments.

Weakest support is given to items 3.9, 4.5, 3.5, and 4.4.

There is relatively less support for the statement that executives will be required to have technical raining in the future.

There is not sufficient time allocated for practicing learned skills or knowledge.

Change to organizational structure is not seen as being caused by technological change.

There is not sufficient time being allocated for present training needs.

TABLE 3: QUESTIONNAIRE RESULTS

	CEO	SUPERVISOR	STAFF
	N = 3	N = 5	N = 10
1.2 EFFECTIVENESS OF THE POLICY			
MINIMUM..........................			1
MODERATE.........................	2	2	5
HIGH.............................		2	2
HIGHEST..........................			2
NO RESPONSE......................	1	1	
TOTAL............................	3	5	10
1.3 EFFICIENCY OF THE POLICY			
MODERATE.........................	1	1	4
HIGH...	2	4	5
HIGHEST..........................			1
TOTAL............................	3	5	10
2.4 EFFECTIVENESS OF COMPANY PROCEDURE REGARDING TRAINING			
LOWEST...........................			1
MINIMUM..........................			3
MODERATE.........................		2	2
HIGH.............................	1	2	1
HIGHEST..........................			3
NO RESPONSE......................	2	1	
TOTAL............................	3	5	10
2.5 EFFICIENCY OF COMPANY PROCEDURE REGARDING TRAINING			
MINIMUM..........................		1	2
MODERATE.........................		1	2
HIGH.............................	1	2	5
HIGHEST..........................			1
NO RESPONSE......................	2	1	
TOTAL............................	3	5	10
3.1 OFFICE TECHNOLOGY ON PRESENT POLICY DEVELOPMENT			
LOWEST...........................			1
MINIMUM..........................		1	1
MODERATE.........................	2	1	3
HIGH.............................	1	2	4
HIGHEST..........................		1	1
TOTAL............................	3	5	10

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TABLE 3: QUESTIONNAIRE RESULTS (CONTINUED)

	CEO	SUPERVISOR	STAFF
	N - 3	N - 5	N - 10
3.2 OFFICE TECHNOLOGY ON FUTURE POLICY DEVELOPMENT			
MODERATE.........................	1		3
HIGH............................	2	3	6
HIGHEST.........................		2	1
TOTAL...........................	3	5	10
3.3 OFFICE TECHNOLOGY ON PRESENT TRAINING NEEDS			
MINIMUM.........................			2
MODERATE........................	2	1	1
HIGH............................	1	3	4
HIGHEST.........................		1	3
TOTAL...........................	3	5	10
3.4 OFFICE TECHNOLOGY ON FUTURE TRAINING NEEDS			
LOWEST..........................			1
MINIMUM.........................			3
MODERATE........................			3
HIGH............................	3	2	3
HIGHEST.........................		3	
TOTAL...........................	3	5	10
3.5 OFFICE TECHNOLOGY ON ORGANIZATIONAL STRUCTURE			
LOWEST..........................	1		2
MINIMUM.........................		1	2
MODERATE........................	2	1	3
HIGH............................		2	1
HIGHEST.........................		1	2
TOTAL...........................	3	5	10
3.6 OFFICE TECHNOLOGY ON RECRUITMENT/PROMOTIONAL PROCESS			
MINIMUM.........................		1	2
MODERATE........................			2
HIGH............................	3	4	6
TOTAL...........................	3	5	10

TABLE 3: QUESTIONNAIRE RESULTS (CONTINUED)

	CEO	SUPERVISOR	STAFF
	N = 3	N = 5	N =
3.7 CHANGE IN TECHNICAL TRAINING (ENTRY LEVEL)			
MINIMUM......................			5
MODERATE.....................	1	2	3
HIGH.........................		1	1
HIGHEST......................	2	2	1
TOTAL........................	3	5	10
3.8 CHANGE IN TECHNICAL TRAINING (MANAGEMENT LEVEL)			
LOWEST.......................			1
MINIMUM......................	1	1	1
MODERATE.....................	1	2	1
HIGH.........................	1	2	4
HIGHEST......................			3
TOTAL........................	3	5	10
3.9 CHANGE IN TECHNICAL TRAINING (EXECUTIVE LEVEL)			
LOWEST.......................			1
MINIMUM......................	2	4	1
MODERATE.....................	1		3
HIGH.........................		1	5
TOTAL........................	3	5	10
4.1 DETERMINE THE NEEDS FOR TRAINING			
MINIMUM......................			4
MODERATE.....................		1	3
HIGH.........................	1	3	2
HIGHEST......................	2	1	1
TOTAL........................	3	5	10
4.2 DEVELOP BETTER COMPETENCY USING OFFICE TRAINING			
MINIMUM......................			2
MODERATE.....................			2
HIGH.........................	2	4	3
HIGHEST......................	1	1	3
TOTAL........................	3	5	10

TABLE 3: QUESTIONNAIRE RESULTS   (CONTINUED)

	CEO	SUPERVISOR	STAFF
	N - 3	N - 5	N - 10
4.3 COMPANY SUPPLY WITH OFFICE TECHNOLOGY			
MINIMUM....			3
MODERATE....	2	3	2
HIGH....	1	1	4
HIGHEST....		1	1
TOTAL....	3	5	10
4.4 TIME ALLOCATED FOR TRAINING SESSIONS			
LOWEST....		1	
MINIMUM....	1		2
MODERATE....	2	2	4
HIGH....		2	2
HIGHEST....			2
TOTAL....	3	5	10
4.5 TIME ALLOCATED FOR PRACTICING THE LEARNED KNOWLEDGE			
LOWEST....		1	
MINIMUM....		1	5
MODERATE....	2	1	4
HIGH....		2	
HIGHEST....	1		1
TOTAL....	3	5	10
4.6 PERCEIVED PERSONAL VALUE OF YOUR TRAINING			
MODERATE....			4
HIGH....	3	4	3
HIGHEST....		1	3
TOTAL....	3	5	10
4.7 PERCEIVED CORPORATE VALUE OF YOUR TRAINING			
MODERATE....		1	3
HIGH....	3	4	4
HIGHEST....			3
TOTAL....	3	5	10

TABLE 3: QUESTIONNAIRE RESULTS   (CONTINUED)

	CEO	SUPERVISOR	STAFF
	N - 3	N - 5	N - 10
4.8 OVERALL EFFECTIVENESSS OF OFFICE TECHNOLOGY TRAINING			
MODERATE...........................	1	1	5
HIGH...............................	2	4	4
HIGHEST............................			1
TOTAL..............................	3	5	10
4.9 OVERALL EFFICIENCY OF OFFICE TECHNOLOGY TRAINING			
MINIMUM............................		1	3
MODERATE...........................	1	1	5
HIGH...............................	2	3	
HIGHEST............................			2
TOTAL..............................	3	5	10
5.1 CONTENT CLEARLY STATED BY OBJECTIVES			
MINIMUM............................	1	1	1
MODERATE...........................	1	1	4
HIGH...............................	1	2	3
HIGHEST............................		1	2
TOTAL..............................	3	5	10
5.2 TRAINING PROGRAM MEETS THE STATED OBJECTIVES			
MINIMUM............................	1	1	3
MODERATE...........................	1	1	2
HIGH...............................	1	2	4
HIGHEST............................		1	1
TOTAL..............................	3	5	10
5.3 TRAINING OBJECTIVES PARALLELED COMPANY NEEDS			
MINIMUM............................	1	1	1
MODERATE...........................	1	1	5
HIGH...............................	1	3	4
TOTAL..............................	3	5	10

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TABLE 3: QUESTIONNAIRE RESULTS   (CONTINUED)

	CEO	SUPERVISOR	STAFF
	N = 3	N = 5	N = 10
5.4 TRAINING PROGRAM MEETS COMPANY NEEDS			
MINIMUM............................	1	1	2
MODERATE...........................	1	1	2
HIGH...............................	1	1	5
HIGHEST............................		2	1
TOTAL..............................	3	5	10
5.5 TRAINING OBJECTIVES PARALLELED PERSONAL NEEDS			
MINIMUM............................	1	1	1
MODERATE...........................	1		5
HIGH...............................	1	3	3
HIGHEST............................		1	1
TOTAL..............................	3	5	10
5.6 TRAINING PROGRAM MEETS PERSONAL NEEDS			
MINIMUM............................	1	1	1
MODERATE...........................	1		3
HIGH...............................	1	2	4
HIGHEST............................		2	2
TOTAL..............................	3	5	10

Questionnaire

Instrument designed to be used in the quantitative process of the study and for creating an initial structure to the interview process.

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EMPLOYEE'S PERCEPTIONS CONCERNING THE EFFECTIVENESS AND
EFFICIENCY OF OFFICE TECHNOLOGIES TRAINING COMPLETED IN THE 1987
CALENDAR YEAR

by

James R. Mellan

Dr. Pat Fahy, Mentor

Dear Participant:

Thank you for the time and effort required to complete this
questionnaire. Your office will be contacted by the first week
in January to set an interview schedule between January 04 and
January 30, 1988. The interview will be used to clarify the
responses received from the questionnaire.

Please return the questionnaire, as soon as possible, using the
attached self addressed envelope.

Yours truly

James R. Mellan
7358-178 Street
Edmonton AB   T5T 2H4

(403)427-5526   (403)481-6396

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NAME OF PARTICIPANT:

POSITION OF PARTICIPANT:

NOTES: FOR THE PURPOSE OF THIS STUDY THE FOLLOWING ASSUMPTIONS
         ARE MADE BY THE INTERVIEWER:

         Effectiveness is "DOING the right thing"

         Efficiency is "DOING things right"

         On a scale from 1 to 5 one (1) means weakest/least/worst
         and five (5) means strongest/most/best.

1.   POLICY

     1.1.   Does your company have a written policy on
               corporate training? (if no skip to section 2)

               y/n

     1.2.   On a scale from 1-5 rate the effectiveness of the
               policy.

               1 2 3 4 5

     1.3.   On a scale from 1-5 rate the efficiency of the
               policy.

               1 2 3 4 5

2.   PROCEDURE

     (If procedure is part of a policy statement skip to section
     3)

     2.1   Is there a written procedure to be followed
               regarding training.

               y/n

     2.2   Who makes the init al decision as to participation
               in training?   CEO   Supervisor   Employee
               Combination (Define)

     2.3   Who mak s the final decision a, to participation
               in training?   CEO   Supervisor   Employee
               Combination (Define)

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2.4   On a scale from 1-5 rate the effectiveness of
            company procedure regarding training.

            1   2   3   4   5

2.5   On a scale from 1-5 rate the efficienc of
            company procedure regarding training.

            1   2   3   4   5

3. **IMPACT OF OFFICE TECHNOLOGY**

ON A SCALE FROM 1-5 RATE:

3.1   the impact office technology has had on present
            policy development.

            1   2   3   4   5

3.2   the impact office technology will have on future
            policy development.

            1   2   3   4   5

3.3   the impact office technology has had on present
            training needs.

            1   2   3   4   5

3.4   the impact office technolgy will have on future
            training needs.

            1   2   3   4   5

3.5   the impact office technology has had on
            organizational structure.

            1   2   3   4   5

3.6   the impact office technology has had on
            recruitment or promotion processes.

            1   2   3   4   5

3.7   the change in the level of technical training
            required by entry-level positions.

            1   2   3   4   5

3.8   the change in the level of technical training
        required by management level positions.

        1   2   3   4   5

3.9   the change in the level of technical training
        required by executive level positions.

        1   2   3   4   5

4. PRIORITIES REGARDING TRAINING IN OFFICE TECHNOLOGY

    ON A SCALE FROM 1 - 5 RATE:

4.1   the degree of your personal involvement in
        determining the needs for training.

        1   2   3   4   5

4.2   the degree of responsibility placed on you
        personally to develop better competency using
        office technology.

        1   2   3   4   5

4.3   the degree of responsibility placed on the company
        to supply you with office technology training.

        1   2   3   4   5

4.4   the time allocated for training sessions.

        1   2   3   4   5

4.5   the time allocated for practicing the learned
        skill or knowledge.

        1   2   3   4   5

4.6   the perceived personal value of your
        training.

        1   2   3   4   5

4.7   the perceived corporate value of your training.

        1   2   3   4   5

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4.8   the overall effectiveness of office :chnology training.

        1 2 3 4 5

4.9   the overall efficiency of office technology training.

        ⁷ 2 3 4 5

5.   TRAINING CONTENT

ON A SCALE FROM 1 - 5 RATE:

5.1   the degree to which the content to be studied was clearly stated by objectives.

        1 2 3 4 5

5.2   the degree to which the training program meet the stated objectives.

        1 2 3 4 5

5.3   the degree to which stated training objectives parallelled company needs prior to registration in a technology training program.

        1 2 3 4 5

5.4   the ability of the training program to meet company needs.

        1 2 3 4 5

5.5   the degree to which stated training objectives parallelled your personal needs prior to registration.

        1 2 3 4 5

5.6   the ability of the training program to meet your personal needs.

        1 2 3 4 5

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5.7   Was a written evaluation completed at the time the
             course or program was finished?

             y/n

5.8   Was a verbal evaluation completed at the time the
             course or program was completed?

             y/n

6.   TRAINING COURSES TAKEN SINCE JANUARY 1987

INSTITUTION	COURSE	LENGTH TIME & DATE	COST COMPANY PERSONAL
Public: University			
College			
Tech School			
Private Company			
In-House			

7.   Your comments on the study or on technology in general are
      appreciated.

Interview Protocol

This appendix is an example of the interview process conducted with one participant.

Level within organization: Executive/CEO

Size of Company: Medium

Questions asked of participant to clarify any section of the questionnaire not completed or questioned at the time of completion.

> All areas of the questionnaire were answered and understood by this participant.

General Question asked of every participant

1.   How has the technology affected you, personally, in your career development?

Summary of Answer:

> Makes professional jobs easier.
>
> Secretaries do not seem to give it (technology) mucn thought. You should get some interesting responses to your survey as some of them take to technology with great enthusiasm. They find it makes their job a lot easier.
>
> History: typewriter, magcard, display writers, pc. We are finally phasing-out display writers and we are using pc's with laser printers. There is a little resistance to the changes. One of the problems is training. How do we make sure we train them properly? The other thing is to get them all trained the same way so they all understand what that product can do.

Questions designed from initial question and the data received from the questionnaire.

2.   You alluded to the master plan your company went through. Was it a major task to identify training as part of that whole plan?

No.   Training for the word processing side, we know
what it is we want to do.   The question was where was
the best place to get quality training?   (The big
difference between training and quality training.)   In
the past they would simply go over to the training
centre, sit down in front of a machine, and work at
their own self-paced training but we found this does
not work very well because people are still reserved
and they will not ask questions.   They stumble through
it, as best they can, to get out without making
themselves look bad.   So we spent a lot of time with
the PBSC people, or .... spent a lot of time with the
PBSC people, to get them on board so they understood
what our problems were or what our concerns were.   They
have, as a result, constructed an excellent course and
we have a number of responses from personnel that say
the courses were just "great".

3.   So the company along with PBSC has definitely set up a
      needs process and they have met this challenge?

Answer:

Yes.   It went so well with the word processing that we
are now even getting them to do our mainframe training.
We told them what we are doing and here is what we want
and here is how we are doing it.

4.   And this has proven to be a cost-effective process?

Answer:

Yes and I'll tell you why.   In our master plan we
wanted to evaluate all the staff, and how much we
needed to do certain functions.   In a cost-containment
time and in the rationalization of all your resources I
felt it was better for us based on the number of
training days we would have to contract it outside
rather than hire a full time trainer, get a training
room, and do this in-house.   For the amount of money I
would have to spend on that I couldn't cover-off the
needs of all these people.

5.   PC's have had an impact in the past few years.   Are you
      linking the technology between micro (pc) and mainframe
      so there is a working station atmosphere with total
      access?

Yes.   Right now what we have done, to give you an example, is have the mainframe over there, and we are looking at putting in distributive minis in specific functional areas which is different than word processing.   What we have done with word processors is hook four or five to one printer and using an erma card we can link to the mainframe and use the pc as a terminal.   Right now technology has not proven itself enough for us to put in a LAN or local area network. That is, however, in our plan; we will eventually link all of these together.

6.   Is the technology sophistication and the concept of LAN a major problem with respect to security?

Answer:

No, not really, it is more a problem of function; of how it (LAN) is going to work.   Security can be handled on the pc with products such as Watchdog.   We are going to look at security.   We do a lot of sharing.

7.   It is obvious by your planning that technology will have an impact on decision making, recruitment, career planning and personnel: could you elaborate on this.

Answer:

Change and the transition from one product to another and from one release to the next is of concern.   We looked at a lot of products but we realized we had to put our vision onto something.   We contacted Microsoft and they came in and we both agreed to the legality necessary and received a good price and we gave it to certain areas.   What happened when others saw the product, others wanted it.   Other divisions have come on board and it probably has taken a year to get to this point.

If we can get the positive and comfort feeling with the people the more acceptable the change.   We supply a resource   person   to   facilitate   the   process   during change.

8.   Based on the amount of effort you are going through now for retraining and development of your long-range plan; What is this going to do to recruitment policy?

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On recruitment we are really saying people coming to us must know "Word". How well people can handle that environment will be important and how much experience a person has will be important. The person that has the training and the aptitude will probably be preferred to take the job.

9. What about the structure within the organization. Is technology changing the structure within which you are operating.

Answer:

It is not technolgy that is changing it; it is the CEO that is doing it. He is a very up-to-date management person. A person that is an aggressive individual, that looks at how we flattened out the organization, get rid of levels of management and push down responsibilities. Another thing that we do is as a group of managers we spend 3 days per year where we go through all our problems and look for new direction and we look at our corporate missior, attitudes, values, and beliefs. We have to become more productive because we are a high-cost producer and to be competitive we must become as low-cost as possible. It is the management philosophy that is pushing this and not the technology.

10. Is the technology one of the tools that has allowed these changes in structure to occur?

Answer:

As a gut feel this is happening. People now have more control over their own destiny; more things at their finger tips so they can sit down and make their own decisions and they respond quicker to situations.

11. Are managers going to have to be more technical in their orientations and communications?

Answer:

I would say yes in a company; but, in this company, which is a highly engineer-oriented company, we hire a lot of well-educated engineers that have that training.

12. Based on the results from the questionnaire your employees have a perception that everything is

positive. People know there is a policy but they do
not identify a procedure. Can you elaborate on this.

Answer:

There is a policy and procedures manual. We seem to
operate as small companies. There are a number of
policies and procedures and there is a number of
educational policies.

13. Is consistency becoming a major factor in training?

Answer:

extremely important (uniformity, consistency,
standards). Another reason for the positive atmosphere
is because we spend considerable effort at it
(training). We do not put people off. We go to their
desk and help them. The more we can do this the better
off we are. Also, you have been given the leading
edge of our training process and they should be
positive.

14. Give me your personal definition of technology.

Answer:

Technolgy can be, again, a pc, and change from the way
things are done at this time. I look at technolgy as a
matter of day-to-day business. Technology is the using
of available tools to do your job. What is more
important is: What is the state-of-the-art, leading-
edge, or proven technology and in our policy we decided
would not go with "leading-edge" (we call this
"bleeding-edge") unless it was necessary to solve a
problem. We want the proven technology and this is
planning.

WORDPERFECT

A TRAINING MANUAL

CO AUTHORSHIP

JAMES R. MELLAN
KARILEE ORCHARD
1988

The module presented in this appendix has been designed to accommodate the concepts identified from this study. The manual was designed based on needs analysis and identifies the major components requested by company personnel. The manual was presented as an example of how information from industry can be used to define the development of a course.

The manual was designed to be used as a reference tool once a learner has completed the course. Any exercises or assignments to be used in conjunction with the manual were the responsibility of the instructor and were part of an instructor's methodology and not part of the manual's development. The role of the training institution would be to keep the manual updated based on the needs of the clientele served. This concept identifies a role in curriculum development that requires deve~opers to involve themselves in needs analysis prior to the identification of program and process. The concept also implies that training that is dependent on text books cannot be needs specific unless the text is designed or used as reference.

The design of this manual differs from other designs in the following:

1. The learning tasks are defined based on:

    A. the basic concepts required of the client.

    This portion of the manual is common to all courses offered and can be used or omitted depending on the degree of knowledge held by participants. The material in this section is distributed throughout the manual to allow knowledge development prior to introduction of

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specific content. The basic concept is that the client will be totally operational at the end of the course.

B. the need identified by the client.

This portion of the manual is designed based on common processes acknowledged within the industry. Additional content for this section is added based on specific needs identified to the instructor or course developer prior to or during the the course. The material is distributed throughout the manual to allow the learning task to develop based on levels of understanding of both operation and process. Additional materials become part of methodology and will vary according to instructor and clientele.

2. The manual identifies a table of contents and an index to allow clients a process for quick reference. The index is identified at the end of each section leaving the index specific to identified learning tasks.

3. The manual includes a section for "notes" which allows the client to identify specific uses the learning task may have to their daily operation.

4. The manual identifies other reference sources and free service support to all clients (if clients have concerns regarding the content covered within a course).

Other manuals have been developed based on the same concept and are currently being used by Working Systems Limited of Edmonton, Alberta, Canada. The manuals have been accepted by both the clientele and the instructors and are considered to be an effective and efficient means of delivery. Since their initial development in the summer of 1987 the manuals have been updated to accommodate evaluation concerns of clientele and specific needs identified by the industry. The other manuals

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available cover Lotus 123, Hard Dos, and Introductory Accounting. These manuals are the core of a program being developed called "Training Trainers" which is scheduled to be released by the summer of 1988. A letter from the president of Working Systems Limited is enclosed for reference as is the WordPerfect Manual.

The WordPerfect Manual referred to above was not included with the copy of this document received by ERIC.
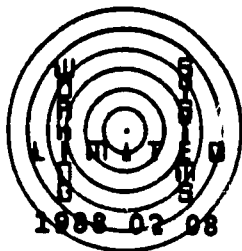
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Ms. Nancy Schaepback
Assistant to the Dean of Admissions
Columbia Pacific University
1415 - Third Street
San Rafael, CA 94901

                Re: James R. Mellan,
                     Candidate for Doctorate of Management

Dear Ms. Schaepback·

With this letter, I wish to recognize the involvement of James R.
Mellan in the identification and addressing of our "needs sensitive"
approach to training.

Working Systems Limited is a service company marketing microcomputer
training and training-related products and services to the business
community of Edmonton and surrounding areas. Working Systems provides
small to medium businesses with comprehensive solutions to automating
their office routines, including solution analysis, hardware, software
and training.

    Our purpose is to clarify and implement the process of applying
    the power of personal computers in business applications.

Jim has made himself available to our company as a resource person,
sounding board and friend since August of 1987. During that time he
has contributed suggestions, proofread copy and offered helpful
critiques as we developed some of our training materials, and tested
our direction. His research confirmed some previously unproven
suspicions that traditional classroom techniques were not fulfilling
many business needs when dealing with technological change. We value
the synergy between Jim and ourselves.

On behalf of Working Systems Limited, I thank James R. Mellan for his
efforts and dedication, and wish him well in his pursuit of a
Doctorate in Management. I trust that Columbia Pacific University
will deem him to be a candidate worthy of such distinction.

_____. Johnston
President

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Management
Instructional
Systems

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