TRANSFER OF TRAINING IN ORGANIZATIONS: A FIELD STUDY

by

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ABSTRACT

This study examines the theories and concepts involved in the transfer of training in corporate settings. A model of transfer of training is presented which is comprised of the factors of training inputs, training outcomes, and conditions of transfer. Key issues of transfer of training are also identified and discussed.

A particular training program involving interpersonal leadership skills and which was conducted at a local telecommunications firm was reviewed in terms of the presented model and key issues. A field experiment was conducted to determine the extent of training transfer achieved by this program. Nine separate training constructs of the training program were identified and measured.

A control and an experimental group, each consisting of thirty subjects, completed a self-analysis survey. Subjects were also observed by their work associates to determine if behavioral changes took place as a result of the training program. Five of the nine constructs were measured by an associate-observation survey and the remaining four were measured by a self-analysis instrument. MANOVA analysis was the primary statistical analysis employed to test the observed behavioral differences between groups for each construct.

Overall, behavioral changes did occur in the experimental group and were statistically significantly different from the null in three of the nine constructs tested. These results indicate that positive effects did occur as a result of the training program. These results were also analyzed in terms of the training transfer model. Observations regarding methods to improve the transfer of training in this instance in particular, and for training programs in general, are discussed.

DEDICATION

To the Students, Staff, and Faculty in the Faculty of Business Administratión at Simon Fraser University for providing me with a great experience. And to my friends and family for their support.

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CHAPTER 1

INTRODUCTION

With the advent of economic globalization which began in the 1980's and continues today, extensive change in economic relationships between firms and countries has occurred. This is evident in the development of international trading blocs such as the European Union, the North American Free Trade Agreement, and the Asia Pacific Economic Cooperation. Further, increases in capital mobility and the removal of many global trade barriers through such mechanisms as the World Trade Organization have resulted in a dramatic and profound increase in international trade—and interdependence of markets. As profound, and perhaps having a greater impact on firms, is the innovation in technology which has taken on an exponential pace, matched almost by its unlimited diffusion throughout the world. These factors and others have contributed to the fundamental restructuring of industries and organizations throughout the world.

As economic competition becomes global, and industries of all types reinvent themselves in an ever-changing environment, businesses are seeking new sources of competitive advantage. Increasingly, firms are placing greater value on the knowledge, skills, and abilities of the people within their organizations. Quinn (1995, 25) argues that: "A truly maintainable competitive edge usually derives from developing depth in skill sets, experience factors, innovative capacities, know-how, market understanding, databases, information distribution systems... that others cannot duplicate or exceed." On the same theme, leading U.S. economist Lester Thurow (1992, 40) predicts that in the coming decades, human resources will become "the dominant competitive weapon" for industry. Peter Senge (1990, 4) summed up this daunting requirement this way:

> The ability to learn faster than your competitors may be the only sustainable competitive advantage. As the world becomes more interconnected and the business becomes more complex and

> dynamic, work must become more 'leaningful.' It is no longer sufficient to have one person learning for the organization. It's just not possible any longer to 'figure it out' from the top, and have everyone else following the orders of the 'grand strategists.' The organizations that will truly excel in the future will be the organizations that discover how to tap people's commitment and capacity to learn at all levels in an organization.

With these considerations in mind, a fundamental challenge exists for firms in today's business environment. This challenge is "...to identify which human resource management practices contribute most to firm performance and competitiveness and to determine how then to facilitate the diffusion of these 'best' practices" (Chaykowski and Lewis 1994, 1). The manifestation of this need for diffusion of skills is corporate training.

The critical question which evolves from these circumstances, and which is the focus of this research, is whether this renewed emphasis on training is achieving the increase in productivity, innovation, and efficiency desired. There is growing concern that successful transfer of training is not being achieved in corporate settings. Through the study of transfer of training, this research focuses on the issues of diffusion of training. Investigation of the factors required to achieve improved training transfer will serve to enhance the diffusion of best practices in firms, thereby increasing their competitiveness.

"Transfer of training is the effective and continuing application, by trainees to their jobs, of the knowledge and skills gained in training—both on and off the job" (Broad and Newstrom 1992, 6). Effective training therefore, is that which leads to a long-term change in employee behavior consistent with the objectives of a training program. Mosel (1957) identified three basic requirements necessary for transfer of training to occur: (1) content of the training must be applicable to the job; (2) the trainee must learn the content; (3) and the trainee must apply what was learned. Assuming that these basic requirements have been met, a long-term and significant change in behavior should lead to an increase in

employee performance. This should in turn result in the improved competitive advantage of the firm.

These three requirements, although conceptually intuitive, require more detailed investigation. There are many factors which could negatively affect the goals of a training program. These include: incorrect identification of the training needs, poor choice of training method, inappropriate design of the training method, failure to assess the capacity of individual learners, and failure to provide support for new behaviour in the transfer environment. These factors and others make training transfer a more complex subject that what was identified by Mosel.

Research in training transfer has been undertaken by a number of disciplines, most thoroughly by those of psychology and education. There are various terms for this subject but generally the literature refers to training effectiveness, transfer of learning, and transfer of training. Literature reviews also reveal very little investigation into training transfer in corporate settings (Gist et al. 1990). Analoui (1993, ix) explains that the transfer of training is "...a necessity without which the success of a training program and indeed the effectiveness and efficiency of an organization as a whole can not be guaranteed." Lynton and Pareek (1978, 3) also caution that "No one doubts the contribution that training can make to the development of all kinds. Training is essential, obviously so. Doubts arise only over the contribution in practice. Complaints are growing about its effectiveness and waste." The importance of training transfer to a training program—and to organizations—necessitates that a fuller understanding of the processes be developed.

This need becomes more pressing when recent figures concerning corporate training are studied. In the United States, for example, Baldwin and Ford (1988, 63) estimated that over $100 billion was spent annually on organizational training and development.

Carnevale and Gainer (1989, 15) calculate that this training expenditure in the U.S. could reach as high as $220 billion when indirect training costs such as trainee salaries and training facilities are included. In Canada, total direct training expenditures for 1991 were estimated to be $3.6 billion (Kerr 1993, 5). The Conference Board of Canada reports that corporate training expenditure in Canada is steadily increasing. In 1993, average per capita spending was $849, an increase of 1.5 per cent from the previous year (McIntyre 1994, 4).

In terms of effectiveness of this corporate training investment however, researchers estimate that less than 10 percent of this expenditure results in behavioural change of employees (Georgenson 1982; Hoffman 1993). Similarly, Broad and Newstrom (1992, 7) surveyed human resource development (HRD) professionals. They report that, on average, these persons believed that one year following training, less than fifteen per cent of training program content was being used in the work environment. The relevance of this substandard result has great importance to employers in regard to cost-effectiveness, organizational development and competitive advantage. The concept of transfer of training becomes especially important to trainers. This is because when planned for behaviour does not materialize, it is usually the training centres and trainers which are blamed for the inadequacies of hoped for behaviour (Anouli 1993).

The goal of corporate training is to increase employee effectiveness and therefore performance of the firm, yet these results clearly indicate that this objective is not being met efficiently. This study will investigate the subject of training transfer, provide a conceptual model of the transfer process, and conduct an experiment of the effectiveness of a corporate training program.

CHAPTER 2

LITERATURE AND THEORY REVIEW

2.1 OVERVIEW OF TRAINING AND LEARNING

If competitive advantage of a firm is increasingly dependent upon the quality and behavior of employees in an organization, then training, and related subjects such as learning and transfer, also increase in importance. Before looking at training transfer, it is necessary to further define and address the terms training and learning.

The concept and practices of training have numerous definitions. Fundamentally though, training provides the bridge between present and desired performance. Bramley (1991, xv) provides a particularly useful definition for the purposes of this research. Training involves:

> 1. Systematic processes which are concerned with some form of controlled, rather than random learning;
> 2. Changing behavior, skills and attitudes of people as individuals and as members of social work groups;
> 3. Improvement of both the present and the following job performance (effective transfer) and enhancement of the effectiveness of the organization in which the individual or group works.

This definition is useful to this discussion for a number of reasons. First, its emphasis on formal, rather than informal methods of learning, relates to the type of training program in this study. Next, the inclusion of both individuals and work groups acknowledges that (as will be discussed) learners are influenced by the norms and culture of their environment. Finally, its acknowledgement that corporate training has its end goal in improving performance of the firm is also very relevant.

Learning can be defined as the human process by which skills, habits, and attitudes are acquired and used in such a way that behavior is modified (Beach 1980). Because we cannot observe internal human processes, learning is referred to as a "hypothetical state which can only be inferred from observation of observable performance" (Stammer and Patrick 1975, 23).

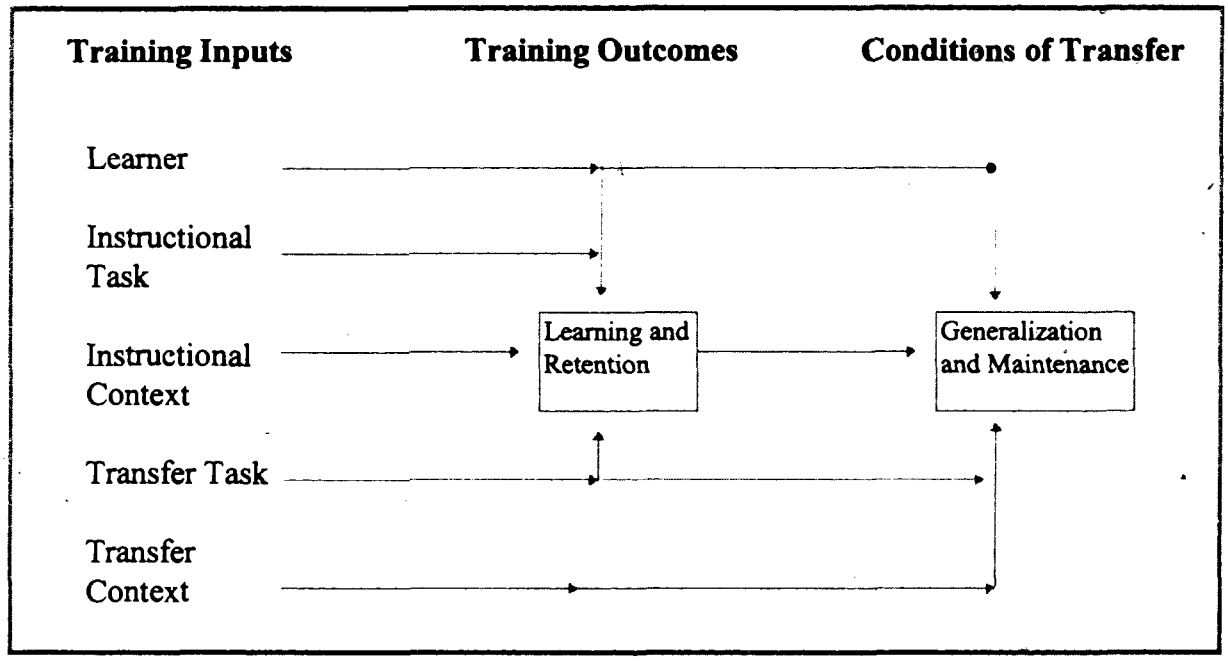
Luthan (1981, 23) noted that "There is little organizational behavior that is not directly or indirectly related to learning." Anouli (1993) outlines the differences between formal training in organizations and learning as part of an organizational context. Training programs hold learning as a designed activity. In the context of an organization however, people are also exposed to indirect, subtle and even unconscious learning on a daily basis. For example, Schein (1992) describes that groups and organization share basic assumptions about problems of internal integration and external adaptation. This organizational culture is a belief system based on values and practices that are often not articulated. Yet culture has a profound effect on the individual and collective perceptions, thought processes, and feelings within a firm. Influencing informally yet continually what is learned and how, these beliefs are also informally passed-on to new members of the group, teaching them about how the group perceives how things are done.

Understanding that people learn both formally from training programs and informally from their environment recognizes that the contextual environment of the training program also serves to influence the worker. Therefore, the contextual environment of the worker must be recognized as an influencing factor in behavior and should be taken into account when planning training programs. This recognition is included in the following model.

2.2 THE TRANSFER PROCESS MODEL

Baldwin and Ford (1988) presented a comprehensive review of transfer training knowledge and developed a model of the training transfer process. Subsequent research supports and refines the factors of this model and an updated schema is presented here. Relying primarily on the work of Marini and Genereux (1995) to revise this model, a framework is presented to conceptualize the training transfer process in Figure 1 below.

Figure 1 — Model of the Transfer Process



Adapted from Baldwin and Ford 1988.

Figure one shows that, according to Baldwin and Ford, the transfer process consists of three main factors. These are training inputs, training outcomes, and conditions of transfer. Training outcomes are defined as "the amount of original learning that occurs during the training program and the retention of that material after the program is completed" (Baldwin and Ford 1988, 64). Training input factors include the learner, the instructional task, the instructional context, the transfer task, and the transfer context (Marini and Genereux 1995).

Learner characteristics encompass the fact that each learner brings to the training environment a specific set of "personal resources and constraints" such as declarative knowledge, procedural knowledge, dispositions, and processing capacity. These resources must be such that learners are able develop them to adequately perform the task in question. It is important therefore that these personal resources be adequately assessed and any deficiencies provided for in the training program. This also requires that the requirements of each task be assessed in these terms.

The instructional task refers to the training exercises and learning materials involved during the training. Instructional context includes the physical and social setting provided by the trainer and other participants, as well as the behavioral norms expected in the training setting. Just as in the work context, the training environment is increasingly recognized as a source of informal learning. The norms and attitudes present during the training influence the ability to learn and the actual skills being taught (Marini and Genereux 1995).

Transfer task and context refer to the application of training objectives outside of the training environment. Research has found that successful training transfer requires trainees to emerge from training with the ability to access the required personal resources when a transfer opportunity presents itself. They must also posses the ability to automatically or consciously recognize suitable transfer situations (Prawat 1989). Furthermore, learners must also have the motivation to apply skills to transfer situations (Pea, 1987).
Ideally, learners should also be able to apply the new skills to a variety of transfer situations (Perkins et al 1993; Prawat 1989). These requirements for successful transfer imply that not only must learners possess the resources to apply skills, but that the work environment can contribute either positively or negatively to the degree of skill application. This influence may take such forms as supervisory and associate support,

relevance of new skills, compensation, or corporate culture. It is important to note that the motivations influencing employee behavior in the job context are in management's and not the learner's control. Therefore, the "...rewards, punishments, incentives and deterrents in the job situation..." must be tailored to motivate new behavior (Mosel 1957, 57, emphasis in original). The inference here is that a training program should not be planned separately from the overall management strategy. Instead, management practices in terms of supervision, provision of resources, motivation vehicles, corporate culture, etc., should provide support for the positive transference of newly learned skills.

The next factor in the framework is Conditions of Transfer. Conditions of transfer involve both the maintenance and generalization of learned material. Generalization of learned material describes the application of transfer tasks to the work environment and maintenance refers to the ability to retain newly acquired skills, knowledge and attitudes over time. The following field experiment measures the transfer of training in a particular organization. It is the conditions of transfer that is the subject of this measurement.

The relationship between these factors is outlined in Figure 1 (page 7). This model indicates that the outcomes of training directly affect conditions of transfer. Kirkpatrick (1967) showed that new skills must be learned and maintained (training output) in order for transfer to take place. In addition, the conditions of transfer are also directly influenced by the learner, the transfer task, and the transfer context (Marini and Genereux 1995). These input factors influence the conditions of transfer regardless of the degree of learning and retention which occurs. For reasons described earlier, skills may not be transferred due to, in the case of the learner, inadequate personal resources to apply new skills. In the case of the transfer task and transfer context, the task may, for example, be regarded by the learner as unnecessary or non-normative to the environment (Mosel 1957). Further, lack of motivation or support in the transfer context, which was discussed earlier, may also negatively influence generalization and maintenance of learned behavior.

2.3 KEY ISSUES IN TRANSFER OF TRAINING

Along with the factors described in this framework, the design of a training program must take into account many diverse theories of transfer. One significant problem associated with research into transfer is that there is no single body of learning theory (Jones 1979; Kenney and Reid 1986). Indeed, many researchers and theorists on the subjects of learning and transfer propose conflicting theories (Luthan 1981). Each theorist or group of theorists has their own arguments of how to best ensure that learning and transfer take place.

To simplify the many theories of training, Marini and Genereux (1995) have identified four key issues involved in teaching for transfer. These four issues are: the focus of the training program, the extent of transfer expected to occur, the style of learning, the style of teaching. Because they concern the five training inputs of the transfer model, the approach decided in each of these for issues have a direct impact on the training transfer process. The approach taken by HRD professionals regarding these issues has a fundamental influence on the pedagogy of the training initiative. Because different researchers propose such a wide diversity of transfer theory, researchers and HRD professionals must understand the basic issues which these theories attempt to address.

2.3.1 Focus of the Training: Learner, Instruction, and Context

The first of these issues regards the basic elements of training inputs which were described above as the learner, the instructional task and context, and the transfer tasks and context. Determining which of these issues to concentrate upon will necessarily affect both the training outcomes and the conditions of transfer. Depending on the theoretical perspective, different researchers have focused on one or more of these elements.

One major body of thought emphasizing the role of the task is that of stimulus-response theory. Stimulus-response psychologists reject the study of unobservable internal processes, and instead favour a belief in external stimuli as the primary source of knowledge. These theorists focus on task stimuli in the transfer process. In one study, for example, verbal learning theorists focused on matching inherent encoding and available retrieval cues of the initial learning task and the subsequent transfer situation respectively (Cormier 1987). Theorists from this group emphasize that the higher the proportion of identical elements between two tasks, the higher the chance of transfer between one task and the other.

Gestalt theory differs from stimulus-response theory by emphasizing the role of the learner in the transfer process (Marini and Genereux 1995). Focusing on such factors as the perception and subjective experience of the learner, theorists of Gestalt emphasize that internal processing is influenced by the learner's perception and interpretation of tasks and their solution. Emphasis from this perspective is placed on the learner's processing strategies to improve transfer. Gick and Holyoak (1987) summarize this perspective by stating that it is the perceived similarity between task and training, rather than actual similarity, which is the key determinant for transfer.

Shifting emphasis away from the learner, instructional context is beginning to gain more attention in North America (Pea 1987). Many researchers propose context as the most influential factor in training transfer (Marini and Genereux 1995). Pea (1987) argues that the sociocultural context of formal education must be carefully designed to enhance training transfer. In describing how children learned best, Rogoff (1990) stated that the training context consists of 'informal apprenticeships.' These relationships consist of rich social interactions between students and provide them the basis of how to think and act. This influence is thought to be greater than formal training. This theory mirrors the determination that organizational culture has a profound influence in workplace behavior.

The deduction is that the cultural norms which are present within a training environment will influence the ability of learners to achieve the goals of the training program.

These diverse theories each provide valid considerations when designing training programs for effective transfer. This observation suggests that positive training transfer requires that all three basic variables of training input—learner, instructional task and context, and the transfer task and context—be carefully considered when designing a training program.

2.3.2 Extent of Transfer Expected: Cross-Task, Cross-Context, Distance, and Generality

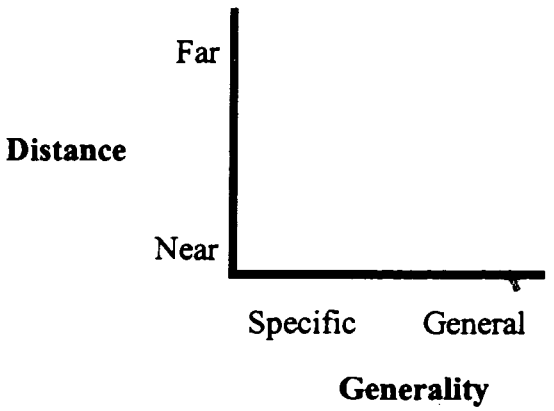
The extent to which transfer can be achieved is a fundamental factor when designing training programs for effective transfer. Specifically, one must ask if it is reasonable to expect that students be able to transfer new knowledge to situations which are markedly different from the classroom setting. The answer to this question is difficult to find because there exists considerable conceptual confusion concerning the extent of transfer (Marini and Genereux 1995). Many researchers use different phraseologies and categorization techniques to describe transfer, but there as yet exists no consistent definition or standard classification for these diverse terms. The difficulty of comparing the extent of transfer then becomes one of individual researchers using different measures of, for example, task classification, thereby achieving widely varying results.

Marini and Genereux (1995) emphasize that, despite this problem, wide recognition of the existence of both task and context variables in transfer has developed. Cross-task transfer refers to the degree of difference between the training and transfer task. Cross-context transfer is the degree of difference between the training and the transfer context. Both cross-task and cross-context transfer are measured in terms of distance and generality.

Distance of transfer refers to the similarity between the training and transfer task or context. For example, the more similar the task the nearer the transfer, while the more different the task, the farther the transfer. These similarities may be exemplified in a corporate setting by training an individual to operate a specific photocopier and using that photocopier in the work place (near transfer). Far transfer may involve the operation of a very different photocopier than that used in training.

Generality of transfer refers to the breadth of different tasks or contexts which newly learned skills may be applied. For example, a generic problem-solving procedure which can be applied to a wide variety of contexts and tasks is said to have generality. Conversely, an accounting procedure used in only one scenario is said to be a specific transfer. The following diagram displays the two dimensions of training transfer: distance and generality.

Figure 2 — Dimensions of Expected Transfer



With these two dimensions in mind, it can be seen that the potential extent of training transfer can range from one-dimensional (near and specific) to multidimensional (far and general). That is, from one task or context very similar to the training task and environment to a variety of different tasks and contexts, which although employing similar basic concepts, are very different from those of training.

Some theorists believe that only instances of near, specific transfer is possible. Stimulus-response proponents would be at this end of the spectrum, maintaining that human ability consists of a multitude of different specific skill sets which are not transferable to other tasks or contexts. Conversely, many others argue that some generally transferable processes do exist such as learning skills, metacognitive strategies, and communications skills. Weber and Perkins (1989) argue that powerful heuristics can indeed be developed to transcend highly specific domains of learning.1 Still others argue that generalizability can indeed be achieved, but only within each specific domain of learning.

The important issue for HRD professionals is to determine where within these two dimensions the learner can be realistically expected to apply new skills. Trainers must then tailor cross-task and cross-context aspects of training programs to achieve that goal.

2.3.3 Style of Learning: Internal Processes

The third key issue concerns the internal processes of learners. These processes play an integral role in training transfer. The type of training used will affect these processes differently, having an impact on the type and extent of transfer which occurs. Three distinct internal processes occur in transfer of training: procedural/strategic knowledge, content/conceptual knowledge, and disposition (Marini and Genereux 1995). Each of these processes involves different presentation styles and teaching content.

Also complicating this issue are the numerous sub-components of each of these three processes. Content knowledge, for example, can take various forms such as basic facts, core concepts, schematic relationships among concepts, etc. Procedural knowledge can include the basic steps for performing a task, performance strategies, or metacognitive strategies to direct, monitor, and evaluate one's thinking and learning. Dispositions

[1]Major domains of learning include numerical, spatial, and social, for example.

encompass diverse terms such as perseverance, openness to new experiences, risk taking and aversion, self confidence, and desire to succeed.

Each of these three processes receives varying degrees of emphasis in training literature depending on theoretical background of theorists. Although most theorists would not exclude any of the above when teaching for transfer, differing groups do tend to emphasize one or the other of these ideas. Proponents of strategy training, for example, argue that by instilling general strategies, application of new knowledge can be achieved across a wide spectrum of applications (Pressly et al 1995). Generic problem solving skills are an example of this category of teaching. The argument is that if very general strategies applicable to a large range of tasks can be identified and taught, then very far and general transfer can be achieved.

Content theorists dispute this, however. They maintain that an emphasis on content knowledge of a particular domain results in spontaneous development of effective learning strategy (Chi, 1988). They also argue that general strategies only minimally enhance task performance if there is a lack of domain specific knowledge of the task at hand. Conversely, other theorists believe that it is essential to teach both conceptual and procedural knowledge in conjunction with each other.

Different still are proponents who emphasize the role of student's disposition in the learning process. They state that the critical need for effective transfer is a positive attitude towards learning and thinking. For example, Saloman and Globerson (1987) argue that transfer would be enhanced if students were taught to be attentive, non-automatic and volitional. These traits would assist the student to develop a "mindful disposition towards learning and thinking" (Marini and Genereux 1995).

2.3.4 Style of Teaching

To facilitate transfer, options in transfer tasks and presentation of material are numerous. There are two prominent decisions exist within this issue. The first is whether to teach for automatic transfer or for conscious, effortful processing. The second option is for explicit or conceptual training concerning when and how to apply new skills at the work site. A third decision factor of this issue arises concerning which instructional modes, learning activities, and knowledge representation formats are best for optimizing transfer. As with the other key issues addressed here, there exists many proponents emphasizing different aspects of this issue.

Concerning automatic or effortful transfer, Saloman and Perkins (1989) describe a "low road" of repeated practice and automation of training tasks, and a "high road" of deep understanding of tasks. These authors defend the high-road which, although a slower process, allows the student to achieve generality in task and context application.

Regarding the explicit instruction of when and how to transfer tasks, McKeough (1995) believes that automatic transfer will be achieved if learning is deep enough. Others believe that acquired skills will remain inert unless specific instruction is given concerning when to use the taught resources (Pressley 1995). Finally, the issues of knowledge representation formats, learning activities, and instructional modes possess a countless variety of options which are too numerous to list here.

These four key issues provide insight into the many theories of training transfer. It is not presently possible nor is it the intent of this research to provide an exhaustive review of these issues and the diverse opinions surrounding each. Rather, by providing a brief overview of the critical considerations regarding training transfer, the necessary background required to assess the particular training program in question is provided. These preceding issues serve to define a guidepost with which to reference questions of training, learning, and transfer. Through these general issues, HRD professionals are

provided with the basic understanding to plan and review training programs so that learning and transfer are maximized.

As stated previously, there exist many influencing variables which act upon the transfer of learning. Further, the dismal figures regarding the transfer of training in industry indicate the neglect of this subject by researchers and practitioners. Very little is known about the transition process of training material to the work context. As Haslerud (1972, viii) stated "Many in psychology and education have admitted that transfer is at once the most important and the most neglected part of the psychology of learning." The framework of the transfer model and the key issues will be used to explain the training program being tested in this experiment. They will also provide content for discussion of any strengths and weaknesses uncovered by this research of the training program under investigation.

CHAPTER 3

SELF-DIFFERENTIATED LEADERSHIP TRAINING

3.1 PROGRAM OVERVIEW

The Self Differentiated Leadership program (SDL) is the treatment effect for this experiment. An overview of this program and its corporate context is provided. In addition, the details of this treatment are briefly described in terms of the key issues and the training inputs of the model which were both reviewed in Chapter 2. These details will prove relevant to the discussion of the results of this experiment. Information concerning research methodology of the following experiment is discussed separately in the appropriate sections which follow.

This research concerns a training program conducted at a Canadian regional telecommunications company. With deregulation of the industry and increased competition, the company is involved in implementing wide-scale structural and procedural change, as well as significant behavioral change of its employees. The Self-Differentiated Leadership (SDL) training program is an externally facilitated four-day skill-group educational session. The training is targeted toward managers throughout the corporation and is administered in small groups of twelve to thirty individuals. This program began in the last quarter of 1995 and is an ongoing program.

This training program has been adopted by the corporation to support a change in the human resource management function performed by managers throughout the corporation. The company has developed a model of twelve core competencies upon

which managers are assessed; five of these competencies involve "people management skills." SDL training is seen as a foundation for increasing the competencies in this skill set.

The goal of SDL training is to provide managers with skills for effective leadership in an organization which is transforming from bureaucratic to empowered. Since the early 1990's, this corporation has pursued policies to increase the scope and authority of its employees at all levels of the organization. This has been done by reducing layers of hierarchy, removing bureaucratic rules and procedures, and eliminating boundaries between functions and levels. While still undergoing change, the organization is nevertheless considerably less rule- and structure-bound than in the past. This elimination of formal boundaries requires managers to use much higher levels of interpersonal skills (Hirschhorn and Gilmore 1992). The intent of this study is to measure the impact of this training on individual behavior. Specifically, the extent to which individuals maintain and generalize taught behaviors will be measured.

The SDL training program and it's intended goals within the company provide an accurate reflection of the new emphasis on human resource skills which was outlined in the introduction of this paper. The telecommunication company in question has experienced strong national and international competition after a long history of monopolistic competition in the region. The adoption of this type of training—developing interpersonal competence—indicates that the company realizes that efficiencies and competitive advantage can be achieved by training its management in "soft" people skills.

3.2 HYPOTHESIS

The research question for this thesis is based on the definition of training transfer which was presented in Chapter 1. That is: "To what extent do participants in the SDL training program apply to their jobs the behaviors and attitudes taught in training." The research question is further broken down into the sub-components of the training program, reflected by the nine constructs described shortly. In turn, the investigative question will concentrate on measuring the degree to which targeted behaviors and attitudes were observed in treatment subjects at their areas of work. The measurement of responses to these questions will assist the company in the assessment of the overall effectiveness of the SDL program.

The overlaying hypothesis of this study is that participants who complete the SDL training will score higher on the measurement variables than do non participants. The Null Hypothesis is:

> H_0: There is no difference in work place behavior of control group and experimental group subjects.

Research constructs are listed in Table 1 and concern the nine intended outcomes of the training program. The measurement variables concern the different skills that were taught at the training program, and are grouped into the nine constructs (Appendix A). The assumption underlying these hypotheses is that the behaviors represented by these particular variables will be sufficiently internalized and accessible by learners and applied to the work environment to a significant degree. The further assumption is that if these behaviors are maintained and generalized, then the transfer of training has been successful. The final assumption is that the knowledge, skills and attitudes taught in this training program are not present within the general population of the corporation's work force.

The rationale for this hypothesis is based on the model of training transfer described in Chapter 2. Although not measured in this experiment, it is theorized that the training inputs resulted in a training outcome of learning and retention. In turn, this training outcome along with the resources of the learner and the conditions of the transfer task and context were sufficient to result in a maintenance and generalization of the training.

Table 1—Research Constructs

Construct	Behavior	Description
Construct 1 AWARE	Able to see self, system & Relationships	Increased ability for self-awareness; increased awareness of own wants, needs, and feelings; greater self reflection; increased sense of their own "part" in relationship and work systems.
Construct 2 DISCLOSES MORE	Leader discloses self in vision & goals	Increased ability to express self
Construct 3 LESS ANXIETY	Projects less anxiety to others	Less reactive and more in charge of self; causes less tension for others
Construct 4 LESS INNOCENT	Reduction in the use of innocence and guilt	Increased responsibility of their impact on others; acts on facts rather than perceptions
Construct 5 CONTRIBUTION	Acknowledgement of own and others' contributions	Increased sense that they matter, increased sense of responsibility for choices
Construct 6 HIDES LESS	Unwillingness to describe self state	Ignore problems; give up and adjust expectations; accept plans that believes will fail; censorship of self and limit of contributions
Construct 7 REACTS LESS	Not curious about self state or system; reactive	Indirect expression of self; expression of frustration through gestures or with third parties; lets problems develop
Construct 8 DESCRIBES MORE	Willingness to talk about self state within the group	Describes the effect of others' on self; is curious about others
Construct 9 SYSTEMS-AWARE	Aware of self role within a particular group	Clarifies situations with others present; discuss problems with affected persons; explores team patterns with others; investigates self behavior

Shaded Areas measured by Self-Survey; Clear areas measured by Associate-Survey

The constructs of the supporting hypotheses which are listed above are based on the intended outcomes of training as stated by the developers of this training program. Besides the effect which these outcomes are to have on the individual, the application of these skills by individuals at the work site will collectively effect the performance of the company. A schematic model of this program and it's intended effect upon organizations is provided in appendix B. Although not measured in this experiment, the intended

organizational effect of this training program shows how the competitive advantages of a firm can be positively affected when these constructs are realized by individuals within an organization.

3.3 THE TRANSFER PROCESS MODEL APPLIED TO SDL TRAINING

The five training inputs of the Training Transfer model consisted of: the learner, instructional task, and instructional context, transfer task, and transfer context.

3.3.1 Learners

Learners for the SDL training program are senior managers and identified "high potential" junior managers in the company. The training program does not assess the knowledge, disposition or processing capacity of candidates. It does assume, though, that each learner has varying ability to develop skills to the extent required to perform them effectively.

3.3.2 Instructional Task

Instructional tasks and learning materials centre around opportunities to practice interpersonal skills that create the conditions for "differentiated clarity" (Short 1991). Differentiated clarity is defined as the state when:

> ...selves are clearly present, expressed and described. Individuals disclose their internal thoughts, feelings and wants, check their assumptions, speak for themselves and inquire about the internal thoughts, feelings and wants of others. [This state] brings clarity (to relationships) ... and can be a lot of work. (Short 1991, 23).

This idea is based on a model of how individuals learn from experience so that they can build learning relationships. Learning relationships are those that allow participants to

continually learn more about themselves and one another by practicing the skills of differentiated clarity.

The instruction is based on Laboratory Education methods. This pedagogy prescribes that learners develop skills by working on real interpersonal relationship issues that occur within the training sessions. The laboratory education method employed in this program takes the form of Skill-group training (S-groups). S-group training consists of unstructured groups of five to six learners and one or two facilitators. Of each course, S-group sessions account for approximately thirty percent of the training hours. The remainder of training is apportioned to experiential exercises (forty-five percent) and lectures (twenty-five percent).

These small groups deal with real issues that are significant to learners at that particular time and place. These issues are dealt with by using the skills of differentiated clarity. Demonstrations of tasks by instructors are not scripted, but instead deal with real issues that occur between the teaching staff. Skill-groups are videotaped to provide learners with the opportunity to review their actions and to identify skills which they wish to practice.

In addition, the training task involves the use of learning partners. Each learner is teamed with another to coach each other in the application of transfer skills. This practice provides the opportunity for learners to provide and receive immediate feedback on the skills used in each skill-group session. Partners also provide each other with an agenda for each skill-group session so that certain skills can be focused upon and practiced. Finally, by observing partners to provide effective feedback, the role of learning partner helps to increase awareness of skills and processes.

3.3.3 Instructional Context

The program takes place at the corporate training facility. Each course involves twelve to thirty participants. Sometimes the participants are from diverse parts of the organization, sometimes from the same work area, and sometimes from two or more work areas which share strong interdependencies.

By holding training away from the transfer context, participants are more likely to feel more free to experiment with new behaviors. Norms of behavior are established which provide an environment for which to practice the skills of differentiated clarity. The role of the facilitators in this environment to provide a conducive social setting is also dependent upon the adoption of the same goals by other participants.

3.3.4 Transfer Task

Transfer tasks are fundamentally the same as the instructional task. Learners are encouraged to apply the skills of differentiated clarity to the workplace. By creating learning relationships at the work site, participants are expected to be able to learn from and thereby continually improve the quality of work relations with others. A learning relationship is one where individuals can truthfully describe their experiences, and inquire into the other's experiences, in order to get clarity about each other's thoughts, feelings and wants. The challenge facing learners is to recognize when to apply these skills and to access the personal resources to do so. The generic skills of SDL training allow for a potentially wide range of application. These skills are considered by the company to be very relevant to their goal of improving the people management skills of its managers.

3.3.5 Transfer Context

The transfer context is the daily interactions at the learner's work site. There are no formal procedures to support or motivate the learner in applying new skills in this setting. There

is, however, motivation to apply these new skills insofar as learners are being formally assessed on their people management skills as discussed earlier. In those work areas where a number of people have attended SDL training, an increase in support for the application of is expected. The reverse is expected in work areas where others have not been through the training.

3.4 THE KEY ISSUES OF TRAINING APPLIED TO SDL

3.4.1 Focus of the Training: Learner, Instruction, and Context

The key ideas within this issue involve the discussion of stimulus-response and Gestalt theories of learning, as well as the importance to transfer of training context. The focus of this training program is almost exclusively on the learner. The training relies on the learner to develop skills by attempting new behaviors. This new behaviour, which is a potential risk, is undertaken only on the initiative of the learner and is not forced. By developing learner insight and awareness of how actions effect surroundings, the training utilizes the Gestalt view of subjective perception rather than a stimulus-response philosophy.

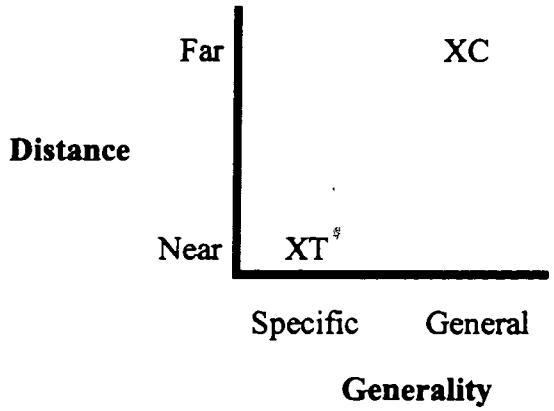
Despite this emphasis on the learner, the training context and learner disposition are also important aspects of this program. The instructional context for S-groups must be one where safety to try new behaviors and skills is paramount. This atmosphere is developed by the facilitators as part of the skills required of differentiated clarity and learning relationships. The dispositions of learners must be such that they are willing to risk new behaviors and skills that may otherwise be a rarity in the general workplace. They must also posses a willingness to learn, an open mind, and respect for the learning endeavours of others. The program is structured so that maximum support is given to individuals by developing a safe context and appropriate dispositions.

3.4.2 Extent of Transfer Expected: Cross-task, Cross-context, Distance, and Generality

The degree of difference in cross-context transfer can be classified as "far." This is because, contrary to the training environment, a protected and supportive environment where all participants are familiar with the theories and techniques being used is not possible. In the work setting, learners are expected to apply new skills with colleagues and non-management staff who have not undergone SDL training. Those not benefiting from this training may not understand the intent behind new behaviors, requiring learners to apply skills in a variety of new and unsupported contexts. Conversely, the degree of difference in cross-task transfer to be achieved is near. The same techniques practiced in training to achieve interpersonal understanding are expected to be used in the work environment.

Generality for cross-context transfer is again broad in that similar tasks can be applied in a range of ways. For example, the learner can apply new skills to peers, supervisors and subordinates equally. Generality for cross-task transfer is classified as specific because the instructional tasks are identical to transfer tasks. A conceptual map outlining generality and distance of context and task is presented below.

Figure 3 — Dimensions of Expected Transfer of SDL Training



XT—Cross-Transfer XC—Cross-Context

Overall, the expected level of transfer for the training program overall is quite high. A multi-dimensional, general application is expected in that tasks learned in training can be applied to a variety of different tasks and contexts which mat differ widely from the training environment.

3.4.3 Style of Learning: Internal Processes

The key concepts of this issue involved procedural/strategic knowledge, content/conceptual knowledge, and learner disposition. A good balance among the three key modes of teaching is achieved by SDL training. The emphasis of formal lecture of the training program addresses the content and conceptual modes of learning. Specific insight is provided at this time concerning core concepts, relationships among concepts, and basic facts of interpersonal behavior. For the S-group aspect of the program, a more procedural/strategic emphasis is adopted. Learners are given the opportunity to model the basic steps of the task techniques and provided with strategies to perform these. Finally, metacognitive strategies are discussed concerning personal performance strategies and self-evaluation and monitoring of thinking and learning patterns.

Dispositional learning takes many forms. The criteria of differentiated clarity are such that the dispositional attitudes of learners are affected. Learners are encouraged to increase their disclosure of internal thoughts, to check assumptions, and to bring clarity to relationships. Trainees were coached in these behaviors and provided with the opportunity to practice them.

3.4.4 Style of Teaching

The key ideas involved in this issue include teaching for automatic or conscious transfer, providing specific or conceptual application scenarios, as well as learning activities and instructional modes. SDL training regarding this issue clearly emphasized a conscious rather than automatic transfer. Similarly, a conceptual, rather than specific, basis for transfer opportunities was taught. Knowledge representation and instructional modes consisted mainly of the S-group settings where modeling behavior and personal and group reflection over individual behavior was conducted.

CHAPTER 4

RESEARCH METHODOLOGY

This experiment was originally designed as a four-group, six-study field experiment. Due to restrictions which developed within the company during the data collection stage, this complex design was abandoned for a simpler and statistically less powerful design.

4.1 SUBJECTS

The experiment consisted of one control group and one experimental group, each consisting of thirty individuals. Each subject was at the management level or higher and ranged from junior supervisors to members of the senior executive team. The experimental group was not necessarily a cohort but participated in one of a number of training sessions held over a period of a few months. In addition, the populations of both the control and experimental group were determined by the company. In effect, selection of experiment subjects was non-random. Nevertheless, populations of both groups were determined using the same criteria. That is, all participants in both groups were chosen based on their suitability and eventual participation in the SDL training program. This consistent application of criteria in choosing subject populations ensures that the effect of testing is not influenced by the choice of training participants.

Each subject was selected on the basis of their response to a letter requesting volunteers. A total of three-hundred letters were sent to participants of SDL training. In response, fifty volunteered for the study representing a response rate of seventeen percent. A total of thirty completed questionnaires which were used for this analysis. For the control group,

seventy of three-hundred responded to a request for volunteers, a response rate of twenty-three per cent. Of these, thirty completed surveys were eventually used.

4.2 INSTRUMENTS

The measurement of constructs for this research relies upon two types of survey questionnaires which are discussed in turn below. Both relied on a seven-point Likert scale applied to each variable. The self-survey instrument, which measures constructs 6-9 (see Table 1, page 21), was adopted from a survey developed by Dr. Ron Short (1994), who also developed the SDL training program. The associate-survey were developed by the researcher, and measures constructs 1-5 (see Table 1, page 21).

4.2.1 Associate Measures

The first measurement scale was a questionnaire completed by two associates of each subject. These associates were chosen by the subjects, and responded to questions concerning behavior of the subject. These observation forms consisted of fifty-seven questions which measured the variables involved in each construct, as well as demographics of participants (Appendix C).

Construct validity has been developed through extensive pre-testing of this instrument. Over one-hundred undergraduate business students were surveyed. More than one hundred elements were tested in this survey, covering all constructs. Through the statistical processes (described in section 4.5.2) these items were eventually reduced to fifty.

4.2.2 Self-Report Measures

Traditional measurement in this type of research is most often observational in design, measuring changes in observable behavior or performance (Ostroff 1991). Yet Kraiger (1993) recommends that self-report scales, when properly designed, are the most accurate in detecting affective learning.[2] However, Ostroff (1991) reports that training assessment may nevertheless suffer poor results due to the lack of power or sensitivity in the rating scale. To overcome this, Ostroff found that a more suitable measure for attitudinal training was scripted scenarios, where respondents react to detailed case studies. This method can overcome the reality that workplace settings only rarely provide the necessary opportunities required for observational testing of training transfer. For example, handling problem employees may be better assessed by this method than by depending on such an event to occur before measurement can take place.

Using this approach, the self-report data for this experiment was collected through a self-report survey using seven-point Likert scales (Appendices D and E). The survey questions involved scripted scenarios in which each subject reported the probability that they would respond in one of four ways as defined by the developers of the training program. Each of the variables was disguised and the order of the four possible responses for each scenario were altered for each scenario.

The self-analysis surveys between the control and experimental group differed in two ways (see Appendix E). First, the experimental group had included in their survey ten questions which asked them to rate the impact of the training on their behaviour. Further, the experimental group was also asked to rate their behavior prior to training. This was in addition to post training analysis of behavior. This self-rating was designed to further test differences of behaviour as a result of training.

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[2] As opposed to cognitive or skill-based learning.

4.3 DATA COLLECTION

Data were collected to ensure ethical considerations and statistical reliability were maintained. Data collection was conducted by the researcher through a mail survey. Subjects volunteered to participate in this survey after being identified and contacted by the corporation. Participation was anonymous and occurred directly between the participants and the researcher, without reliance on the corporation. This was done to ensure that participants felt comfortable in responding openly to the survey.

Once subjects volunteered to participate in the study by contacting the researcher, they were mailed a package which included one self-report measure, two associate measures, and instructions for participants. Two associates per subject were chosen by the subject and provided instructions which specified that completed questionnaires should be returned by mail directly to the researcher and not to the subject. Again, this was done to encourage accurate responses.

4.4 VARIABLES

It was in cooperation with the consultants who have developed and are administering SDL training that the research constructs have been formulated. This formulation resulted from an investigation of the training program to determine the intended goals of the program. These variables are listed in Appendix A and mirror the nine constructs described (see chapter 3).

The nine constructs relate to the specific behavioral and attitudinal abilities which are to be transferred through training. Constructs are operationalized by the definition of the variables which, if present in behavior, would constitute the construct in question. The content validity of these constructs was developed based on the expertise and experience

of the consulting firm responsible for the development and administration of the SDL training program. The variables were developed based on these constructs during the survey development phase described in the following section. See Appendix A for construct details.

4.5 ANALYTICAL METHOD

Measurement of the experimental group occurred six to twelve weeks after the treatment effect to allow for the assessment of behaviour in the work place. Because of field constraints, the control group was measured approximately six months after the post treatment measurement of the experimental group.

4.5.1 Self Description of Training Impact

The experimental group self-survey instrument included ten questions which asked subjects to rate the impact that the training had upon them personally (see Appendix E). A frequency analysis was conducted to determine the learners' perception of the amount of training transfer which occurred (see Table 2, page 35). These self description variables were further compared with the results of the nine constructs using cross-tab analysis. The survey design of the experimental group also allowed for a retrospective analysis of self-rated behavior. Subjects were asked to recall their behavioral processes prior to SDL training and to respond to construct scenarios based on this prior behavioral pattern. To analyse this data, t-tests were conducted on the constructs 6 through 9 (see Table 7, page 41).

4.5.2 Associate- and Self-Survey Scale Construction and Test of Scales

During the pre-test stage, a factor analysis (Varimax rotation) and correlation matrix were conducted to determine which questions achieved the most consistent responses to each construct in the associate-analysis. A reliability analysis using Cronbach's alpha was then applied to each construct. The same tests were also conducted on the test data to ensure consistency with identified constructs (see Table 4, page 37). The same instrument was used for both experimental and control group. Although the same statistical analysis was applied to the data collected with the self-survey, no pre-testing of this instrument was conducted. This was because this instrument was adapted from a developed and tested instrument.

4.5.3 Test of Hypothesis

To test the hypothesis, MANOVA tests were used to measure the differences of means between groups (treatment and control). Univariate ANOVA was also used to determine specific mean differences. This procedure was administered to both the self and associate survey data. As stated previously, all constructs were evaluated using a Varimax factor analysis and a correlational matrix of elements. Because two associate surveys were completed per subject, responses for each variable were averaged before analysis was conducted. A reliability analysis was conducted on this averaged data. Cross-tab analysis was conducted of these constructs and the results of the self description responses of the experimental group. The results of this analysis for both the associate-survey and self-survey are presented in the following chapter.

CHAPTER 5

RESULTS

5.1 SELF DESCRIPTION OF TRAINING IMPACT

Frequency analysis percentages of the experimental group's perception of the degree of training transfer are shown in Table 2 below. The control group did not receive these questions.

Table 2—Self Description Frequencies (percentages)

	Experimental Self-Survey Group Question	Strongly Disagree	Disagree	Slightly Disagree	Neither	Slightly Agree	Agree	Strongly Agree
1	I am able to apply the principles of training to my work place.	—	—	3.8	—	15.4	50	30.8
2	I understand the skills that were taught in this course.	—	—		—	3.8	65.4	30.8
3	The training received in this course is helpful to my work life.	—	—		—	15.4	53.8	30.8
4	The training received on this course is helpful to my social life.	—	—	3.8	—	15.4	46.2	34.6
5	My work environment has improved as a result of this training.	—	3.8	—	15.4	34.6	34.6	11.5
6	My supervisor is supportive of my efforts to apply this training.	—	3.8	7.7	15.4	7.7	26.9	38.5
7	My co workers are supportive of my efforts to apply this training.	—	—	—	11.5	30.8	30.8	26.9
8	The time demands of my job interfere with my ability to apply this training to the work place.	7.7	26.9	11.5	3.8	23.1	23.1	3.8
9	The reward system of my job encourages me to apply this training to the work place.	15.4	19.2	3.8	15.4	11.5	26.9	7.7
10	The organizational culture of my work environment interferes with my ability to apply this training to the work place.	7.7	30.8	—	19.2	11.5	15.4	15.4

Valid percentages, totals sum to 100 (n=26)

The response to these ten questions by the experimental group subjects shows that learners' felt that they understood and were able to apply the skills taught (questions 1 and 2). However, a large proportion of respondents believed that the time demands of their job (46.1%) or their reward system (38.4%) did not encourage them to apply these skills to the transfer context (questions 8 and 9).

In addition, more than twenty-five percent of respondents indicated that their supervisors were either not supportive of the application of these new skills or ambiguous towards them (question 6). This indicates that, for some people, corporate policies do not yet link rewards with these behaviors as intended. Nevertheless, there was a strong perception that working environment improved as a result of this training. It is also interesting that almost equal proportions of respondents believed the culture of the organization was either a positive or negative influence on the transfer of training. This response is almost certainly a function of the different work sites of participants. Future research should attempt to correlate this effect with other measures.

On a heuristic basis, the preceding questions can be applied to the factors of the training transfer model which was introduced in chapter two. Table 3 below categorizes these questions on that basis.

Table 3—Training Transfer Model Categorization of Self Description Variables

Variable	**Experimental Self-Survey Group Question**	**Construct**
1	I am able to apply the principles of training to my work place.	Learner
2	I understand the skills that were taught in this course.	Learner
3	The training received in this course is helpful to my work life.	Transfer Task
4	The training received on this course is helpful to my social life.	Transfer Context
5	My work environment has improved as a result of this training.	Transfer Context
6	My supervisor is supportive of my efforts to apply this training.	Transfer Context
7	My co workers are supportive of my efforts to apply this training.	Transfer Context
8	The time demands of my job interfere with my ability to apply this training to the work place.	Transfer Context
9	The reward system of my job encourages me to apply this training to the work place.	Transfer Context
10	The organizational culture of my work environment interferes with my ability to apply this training to the work place.	Transfer Context

Based on this categorization of variables, observations can be made regarding the effectiveness of the training transfer achieved in this program. First, the higher-rated responses to question 2 (ability to understand) as opposed to question 1, 3, and 4 (ability to apply) imply that, in reference to the Transfer Process model, some transfer was lost between the training outcome (learning and retention) and the conditions of transfer (generalization and maintenance). The source of some of the transfer is no doubt due to

the lack of supporting structure of the work environment, as evident in the responses to questions 6, 8, 9, and 10.

In terms of the key issues of training transfer, these results would indicate that, on the surface, learners have achieved a satisfactory level of confidence in their knowledge and ability to apply new skills. This would further indicate that the style of teaching and learning applied in this program was satisfactory. The response to question 4 (helpfulness of training to social life) can be interpreted as showing that the training has been effectively applied outside of the work context. This shows that despite the lower ratings in the categories pertaining to the application of training, students did learn the material and were able to apply it with effective results. The response to question 4 also serves to highlight the need for more a more supportive environment for these skills in the work place.

5.2 ASSOCIATE- AND SELF-SURVEY TEST OF SCALES

Moving beyond frequency analysis, the results of the reliability tests of constructs are detailed in Table 4 below. The scales below were constructed from survey variables as detailed in the previous sections. Three to six variables were used to construct each of these scales, depending on pre-testing results and reliability analysis.

Table 4—Construct Reliability Analysis

Construct	Cronbach's Alpha	Survey
1. AWARE	0.8623	Associate Survey
2. DISCLOSES MORE	0.6287	
3. LESS ANXIETY	0.9009	
4. LESS INNOCENT	0.8152	
5. CONTRIBUTION	0.7941	
6. HIDES LESS	0.5886	Self Survey
7. REACTS LESS	0.7834	
8. DESCRIBES MORE	0.7279	
9. SYSTEMS-AWARE	0.7191	

The tests of Cronbach's alpha on the nine constructs indicate that a relatively high degree of reliability can be placed on all scales except for that of constructs 2 and 9, DISCLOSES MORE and HIDES LESS. The four constructs of the self-survey scale were also tested to determine if construct reliability could be increased by the removal of variables or the identification of separate factors within these constructs. Although separate factors were identified within each of these four constructs, none of these achieved a higher alpha value than that already identified in the overall construct.

The simple correlations among the nine constructs are presented in Table 5 below. The intercorelation among these variables should be examined based on each instrument. In the associate-survey intercorelation ranged from r=.27 to r=.84. There is a high intercorelation among the variables of the associate-survey, as may be expected as the individual constructs of this training program are interrelated (see Appendix B). Except for the relationship between construct 5 (CONTRIBUTION) each of construct 2 (DISCLOSES MORE) and construct 3 (LESS INNOCENT), there is also statistically significant correlation between these constructs. The large number of significant correlations among constructs can be expected due to the inherent relationship which exists among the intended training outcomes.

The results of the self-survey indicate that on the whole there is a very low intercorelation among the four constructs (r=.00 to r=.66) and among the nine constructs as a whole. Result of the correlational matrix of the nine constructs indicates that the correlation between constructs 1 and 4 is very high (r=.84). Because all constructs are tested independently in this study, this relationship is not considered an adverse relationship.

Table 5—Correlation Matrix of Constructs

	1	2	3	4	5	6	7	8	9
1. Aware	—								
2. Discloses more	.65**	—							
3. Less anxiety	-.66*	-.44**	—						
4. Less innocent	.84**	.56**	-.69**	—					
5. Contribution	.43*	.27	-.30	.39**	—				
6. Hides less	.19	.32*	-.31*	.35*	-.10	—			
7. Reacts less	.06	.19	.04	.13	.07	.37**	—		
8. Describes more	.20	.11	-.00	.11	.18	-.12	-.07	—	
9. Systems-aware	.17	.10	-.14	.12	.06	.11	-.26	.66**	—

*ρ<.05 **ρ<.01

5.3 TEST OF HYPOTHESIS

MANOVA analysis reveals that results are statistically significantly different from the null hypothesis (overall Significance of F = 0.003). The null hypothesis is therefore rejected. Specifically, Table 6 shows that four of the nine scales showed results which were statistically significantly different from the null.

Table 6—One-way ANOVA results

Construct	F Value	Sig. of F	Experimental Group		Control Group	
			Mean	SD	Mean	SD
1. AWARE	0.20647	0.652	2.3583	.9597	2.1700	1.2864
2. DISCLOSES MORE **	5.97813	0.018[b]	4.2222	.7156	4.8733	1.0061
3. LESS ANXIETY **	4.13834	0.047[b]	2.5067	.7353	2.0840	0.6108
4. LESS INNOCENT	0.44868	0.506	5.7586	.9059	5.7600	1.0127
5. CONTRIBUTION **	4.16290	0.047[b]	5.4828	.7526	4.9700	1.1866
6. HIDES LESS **	9.56076	0.003[a]	2.9617	.6443	3.4490	05536
7. REACTS LESS **	0.04282	0.837	2.6966	.6679	2.6345	0.8094
8. DESCRIBES MORE	3.55435	0.506	4.7660	.9219	4.4448	.0.7159
9. SYSTEMS-AWARE	0.08204	0.776	4.2490	.9984	4.3138	.0.6501

a: ρ<.01 b: ρ<.05

**The score of this scale is inverse - a lower score indicates increased observation of required skills

The test results of variable six, HIDES LESS, indicate that this construct generated the most difference between the control and experimental groups. Although reliability analysis indicates that there is present a large degree of noise within this construct (Table 4), its significant results should not be discounted. Although this was the only one of the

four constructs in the self-analysis instrument to indicate notable results, the behaviours of this construct and those of DISCLOSES MORE (in the associate-survey) are quite similar. The statistical significance of DISCLOSES MORE serves to increase the reliability of both measurement instruments.

DISCLOSES MORE is an important construct because its associated variables are the most easily recognized behaviors of the nine constructs (See Appendix A). Its significance here is an indication that subjects were able to understand and apply the general goals of the training. This statement can be made with confidence in that if, as the most concrete of constructs, DISCLOSES MORE was not found to not be a statistically significant, then one may easily claim that the more difficult concepts of this training were not absorbed. Its similarity with HIDES LESS also serves to increase the reliability of both construct measures.

The next significant variable, LESS ANXIETY, is also important because it is the most readily apparent positive influence of the successful application of the skills of this course. The reduction of work place anxiety is a benefit against which few would argue. Finally, CONTRIBUTION is also an important variable for many of the same reasons. It is also noteworthy that the relationship between these last two constructs is the least highly correlated among the associate measures.

For the constructs AWARENESS and LESS INNOCENT, one explanation of the lack of difference between groups may be that these scales rely on more abstract measures of behaviour. Conversely, the remaining three constructs of the associate-survey can be described as the more easily observable and measurable skills involved in this training program (see appendix A for construct variables).

Cross-tab analysis of self description variables and the nine constructs was also conducted. This test revealed that in all statistically significant constructs, subjects who

rated themselves highly in terms of understanding or application of skills, were also rated highly by their associates. This consistency between self and associate observers allows for increased confidence in both measurement instruments

As a further measure of the degree of training transfer obtained, a retrospective analysis of experimental subject group self-survey was performed. T-test analysis was conducted on each of the four constructs of the self-analysis measure, relying on subject rating of their behaviour both before and after the training session. The results of this analysis are shown in Table 7 below.

Table 7—Experimental Group Retrospective Analysis of Construct 6 - 9

Construct	t-Values	2 tail Sig.	Pre-Training		Post-Training	
			Mean	SD	Mean	SD
6. HIDES LESS**	4.93	0.000[a]	3.5481	.813	2.9444	.558
7. REACTS LESS**	-7.73	0.000[a]	3.2062	.865	2.7111	.689
8. DESCRIBES MORE	4.29	0.000[a]	3.3702	1.084	4.7135	.933
9. SYSTEMS-AWARE	-8.73	0.000[a]	3.2546	.923	4.2167	1.026

** Indicates behaviours that should decrease after training a: $\rho<.01$

The results of Table 7 show that not only were the goals of the training program achieved, but that in all four constructs statistically significantly differences resulted in the retrospective analysis of behavior. The consistent finding across all four constructs in this test provides an additional measure of reliability. This additional measure is important because it serves to reinforce the results of previous statistical findings. Further, these findings also serve to overcome some of the difficulties associated with the non-random selection of population. Because learners perceived that a significant amount of training transfer occured, the potential that these trainees were chosen on their ability to succeed and that results were therefore skewed for this effect, is negated.

A final test of the relationship between the constructs and the self description responses involved analysis of variance. First, the 7-point Likert scales of the ten self description variables (see Table 3, page 36) were re-coded as either "agreed" or "disagreed"

("Neither" considered as disagreed). Next, MANOVA tests were conducted on the nine constructs and each of these ten recoded variables. The responses to the nine constructs were compared based on these two groupings. Only question ten of the self-description variables (CULTURE) [3] was found to produce statistically significantly different results (Significance of F = 0.021). Of the nine constructs tested using a one-way ANOVA, only REACT LESS was found to show results that are statistically significantly different between the two variable groups. Table 8 below shows for the results of this ANOVA for the variable CULTURE.

Table 8—Effect of CULTURE the construct REACT

One-way ANOVA—REACTS LESS by CULTURE			
Construct	**F-Ratio**	**Sig. of F**	
REACT	6.2171	0.0203	
T-test for independent sample of CULTURE	**Number of cases**	**Mean**	**Two-tale Significance**
Disagreed	15	2.5533	Equal—0.020
Agreed	10	3.1500	Unequal—0.028

Table 8 reveals that the effect of organizational culture was found to have a noticeable impact on the ability of learners to apply the skills associated with REACTS LESS. T-test analysis was used to compare the means of these two groups. Those who agreed that their work place environment interferes with their ability to apply SDL training had a statistically significantly higher mean than those who did not. The results indicate that in work place environments where the organizational culture was not conducive to the application of skills, learners where shown to be far less likely to transfer these skills associated with REACT LESS.

[3] "The organizational culture of my work environment interferes with my ability to apply this training to the work place."

CHAPTER 6

DISCUSSION AND CONCLUSIONS

6.1 LIMITATIONS

6.1.1 Measurement Difficulty

Measurement problems in the area of interpersonal relations and leadership can be categorized into three general areas: workplace environment; problems with behavior and attitude measurement; and nature of traditional leadership training.

Perhaps the most fundamental problem to assessing training transfer is that in any work environment there are numerous factors affecting performance. It is not enough to expect that employees act according to training objectives solely because they have received the particular training. Factors such as trainee motivation and ability, training design and principles of learning, and the work environment, all play a significant role in the transfer of knowledge and subsequent employee performance. This fact makes it very difficult for researches to design studies that are valid (Rouillier & Goldstein 1991). Spurious relationships can go undetected unless careful planning and design are practiced. For instance, a poorly designed organizational reward system may cause workers to exhibit different behavior than what a specific training objective may require.

Human behavior is subject to a myriad of indeterminate motivations. As discussed previously, these motivations in the work place can include everything from factors in the training method, to reward systems, to the organizational culture. For interpersonal behavioural training such as the SDL program, motivations for personal actions become

even more abstract. This dilemma can lead to many limitations when designing research in this area.

The second category of measurement problem is the nature of the attitudinal and behavioural measurement. Instrument problems pose a particular difficulty in the measurement of training transfer. Kraiger (1993) maintains that the affective learning domain (within which SDL can be classified) possesses distinct considerations for measurement which are different from the cognitive and skill-based learning domains. In the affective area for which this paper is concerned, Kraiger (1993) points out that measures must take into account both the direction and strength of feeling toward the specific learning objective. He also recommends self-report measures as the most accurate in detecting affective learning.

Despite this accuracy, and although used by many researchers when investigating the training transfer problem, self report instruments can also introduce error into the research. These measures can lead to respondent errors such as the self-attribution effect or the reactive effect where respondents change their behavior as they become aware of testing (Goldstein 1993). Other researchers have also documented the propensity for self-attribution bias in behavioral research (Tannenbaum 1991; Deming 1982, Gist et al. 1990).
Error can also be introduced by the selection of training candidates themselves. Their participation in the training and survey can be voluntary (self-selecting) or mandatory (unwilling participant). These factors can produce errors that are often difficult to overcome if not considered in the research design.

Finally, this style of interpersonal training leads to problems when designing research into the transfer of training. This S-group program is by nature conducted on a small scale, with the individual facilitator for each S-group having significant impact on the training transfer process. Also, the response rate of subjects reflects a relatively small proportion

of actual participants of the program. These problems are endemic to this type of training program (Miles 1965). This small scale, aside from having an impact on upon statistical power, also affects validity. This occurs with the potential for error effects such as maturation, history, testing effect and others as a limited number of respondents are subjected to repeated observation. This limitation negatively effects not only the internal validity of this research, but also the generalizability as well.

6.1.2 Reliability and Sources of Error

With the above measurement difficulties in mind, potential for the introduction of error into the survey method had four main sources. First, because of constraints in the field, subjects could not be chosen randomly. This, and the volunteer nature of subjects (self-selection bias) most likely introduced error into the observations in the form systematic selection (non-randomization) and self selection bias respectively. However, the call for volunteer subjects for both the experimental and control groups (three-hundred in each) was very large and may serve to limit some of the negative effects of the probable self-selection bias. Because of the large size of these groups, a good cross-section of the general population was most likely achieved. Further, the positive results of the retrospective analysis of treatment subjects serves as an additional measure of treatment effect. Finally, the criteria used to determine both experimental and control group populations were identical. All participants were identified by the corporation based on their eventual participation in the training program. Although not sufficient to fully mitigate the effects of non-randomization, the full force of this source of error was most likely diminished by these factors.

The second major source of error was no doubt related to the self-survey instrument. Despite the use of scripted scenarios the questions were phrased in such a way as to lead

to self attribution bias. As previously stated research has noted, however, this problem inherent in self-analysis instrument development is difficult to overcome.

The third greatest source of error was most likely related to the process of having subjects chose their associate raters. This, however, was a constraint imposed by the corporation and which could not be overcome easily. Although anonymity was assured and maintained, objectivity in assessment was most likely threatened. Nevertheless, the use of two associate raters per subject would limit this error effect to some extent.

The fourth great hindrance to the generalization of these results was the delay in testing between the control and experimental group. The approximately six months which elapsed between testing of the two groups invariably allowed for an external source of error to be introduced into the responses of the control group (which was tested after the experimental group). Unfortunately, due to the development of this constraint late in the process of this experiment, this effect could not be overcome.

6.2 RESULTS AND THE TRAINING TRANSFER MODEL

With the limitations in mind, the results of the experiment can nevertheless be analyzed using the concepts of the training transfer model introduced in chapter 2. To begin with the training inputs, the results of testing indicate that learners possess adequate abilities to learn and retain the skills of this program. This is evident by the self description responses as well as the good results of the MANOVA analysis. The lack of systematic inquiry into the personal resources and dispositions of learners prior to training, however, is contrary to the best practices presently being employed in the field.

The magnitude of test results could have been increased had the training program addressed the skills and needs of individual participants. In particular, current theory

prescribes that learners emerge from training with not only the skills in question, but also with the motivation and ability to access personal resources to employ these skills. They must also have the ability to recognize appropriate situations to apply new skills. Greater emphasis on these aspects of training would have helped the SDL program more fully achieve its goals.

Frequency analysis also indicates that learners found the Instructional Task and Instructional Context adequate to understanding the material taught. The ability and propensity to apply learned skills acquired in S-group situations, however, has been shown increase with the length of training time (Bunker and Knowles 1967). Ability to apply learned skills may increase in this instance with the increase of course length. Conversely, an increase in the S-group proportion of the present course length from thirty-five percent may have similar results without incurring the added costs of increased course length.

Regarding the transfer tasks, it would appear that respondents value the skills and content of this training program and believe that they are suitably useful to the work site. Nevertheless, the varying results of the different constructs indicate that some of the more abstract skills of the training program are either more difficult to apply to the transfer context or more difficult to observe. Considering the uniform results of both the associate and self survey instruments, the former conclusion would seem more appropriate for this instance. The results of this study indicate that the difficulty of application may be significantly overcome with an improvement in the transfer context.

The transfer context of this training program seems to have played a significant role in the application of these new skills. Support of supervisors, the reward structure and, for many subjects, the organizational culture, have yet to be aligned to sufficiently encourage full application of skills and abilities of SDL training.

To assist learners to apply training skills, management must strengthen the link between the application of these skills and corporate reward structures. In addition, while this training program is in the introductory stage within the corporation, supervisors must be encouraged to support learner application of these skills until a critical mass of trained individuals materializes. Once this occurs, the learning relationships prescribed by the course will serve to support the application of these skills.

On a similar note, the diversity of departmental cultures seems to have an effect on skill application. A proper analysis of the personal resources of learners, as recommended above, will help to identify which learners require increased skills to overcome detrimental cultures. In addition, management should take actions to align the corporate culture of individual work sites with its management goals.

6.3 RESULTS AND THE KEY ISSUES IN TRANSFER OF TRAINING

As stated above, the current program appears to be adequately addressing the requirement of Learners to learn and retain material taught. Difficulty arises however, in the generalization of new skills. In terms of the key issues, the transfer context has been discussed in the previous section. To increase the generalizability regardless of the transfer context, the internal processes of the learning style could be developed to overcome contextual problems of the work site, albeit to a limited extent. This development of learning styles could include a greater emphasis on procedural knowledge of new tasks. This, for example, may take the form of increased opportunity to practice new skills and the ability to monitor and evaluate personal skills.

Teaching style may also help to overcome difficulties in the transfer environment. For example, the propensity to apply skills may be increased by developing in Learners a

deeper understanding of training tasks and opportunities for transfer. This, however, may require a prolonged training session as discussed above.

6.4 CONCLUSION

6.4.1 Observations and Implications for the SDL Program

Overall, testing results indicate that, in terms of the generalization of skills taught, SDL training appears to be achieving its goals to a large extent. Four of the nine constructs demonstrated this positive effect and two of the remaining constructs showed trends in that direction. This study has identified areas which, if addressed, would improve the potential training transfer to occur. All these areas relate to the management practices within the work environment. In particular, the results of this study indicate that in this instance, training transfer would most likely be improved with an increased examination of the resources and needs of individual learners. This examination can be used to tailor training to some extent so that full maximization of training can be achieved by the individual and the corporation.

In addition, the results of this study clearly indicate that the SDL training program would benefit from a closer alliance between the goals of the training program and the management practices in the work place. This alliance could take the form of increased support of required behaviors and closer alignment of the reward structure. Identification of factors which are adverse to transfer of training, such as non-supportive corporate cultures, should also be attempted. Targeted instruction to individuals in training programs may also help to overcome such adverse factors.

6.4.2 Observations and Implications for Future Research

The outcomes of this study provide direction for future researchers. First, the probability that the workplace environment of each subject influenced his or her ability to transfer material was evident in this study. Future similar studies should incorporate a test to account for work place origins of test subjects.

The results of this research also provide a strong indication that laboratory training and S-group training methodology do provide an effective instruction vehicle for learners. This effect could be further tested by designing a test of transfer using to different instruction modes.

The field of training transfer could be further explored by testing for the subjects felt need for change based on pressure to do so due to market conditions. By testing this variable, the Transfer Process model may be refined to account for this important influence in businesses today.

Finally, it is noteworthy that empirical evidence was found regarding SDL training and the decrease of workplace anxiety. Previous Human Resource practices have attempted to reduce worker stress by focusing on variables associated with job descriptions as opposed to worker interactions. This research has shown that workplace stress can be significantly reduced by developing interpersonal relations skills of workers. This finding could benefit from future research into the phenomenon.

6.4.3 Observations and Implications for Transfer of Training Theory

The findings of this study, although focused on one organization, can be generalized to other large companies. Despite the non-random selection of test populations and subjects, the findings of the retrospective analysis of the experimental group along with the reliance on multiple associate observations serve to increase the validity and

generalization of these results. These findings then, provide valid considerations which can be applied both to future research and application of training transfer theory.

For training in general, this relationship between the goals of training and the practices of management serves to highlight the accuracy of the transfer process model (Figure 1, page 7). This model shows that the five inputs to the transfer process each have a significant effect on the transfer process. In addition, this model shows that the training transfer is indeed influenced and controlled by diverse parties. Besides management's control of the training context, this input is also strongly influenced by the personal resources of individual learners as well as the informal and nebulous persuasions of corporate culture. Similarly, the transfer task must not only be correctly diagnosed by management as necessary and valuable to the imperatives of the marketplace, but it must also be perceived by employees as being applicable and worthwhile.

Next, the instructional task and context, although influenced by management, are clearly the domain of trainers. After all, it is their expertise which is the subject of training. Yet, as explained, this is also influenced by key issues of training transfer. Finally, the role of the learner in the transfer process plays as significant role in the transfer process as does management and trainers. Clearly then, the training transfer process must become a co-ordinated effort between the principle parties. This effort must be one where the goals of management, trainers, the corporate culture and learners are aligned to the needs of the environment.

Overall, the results of this field study serve to highlight the many diverse elements affecting the transfer of training. To enhance transfer effectiveness, it would appear that training these various factors require an overall co-ordination, most likely centred at the executive level of an organization. The need to align the input factors of the training model requires a scope of vision and control that is sufficient to span these diverse

corporate functions and influences. By aligning the diverse factors which contribute to the maintenance and generalization of learned behaviors, organizations can begin to more fully realize the benefits of their human resources investments.

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Appendix A

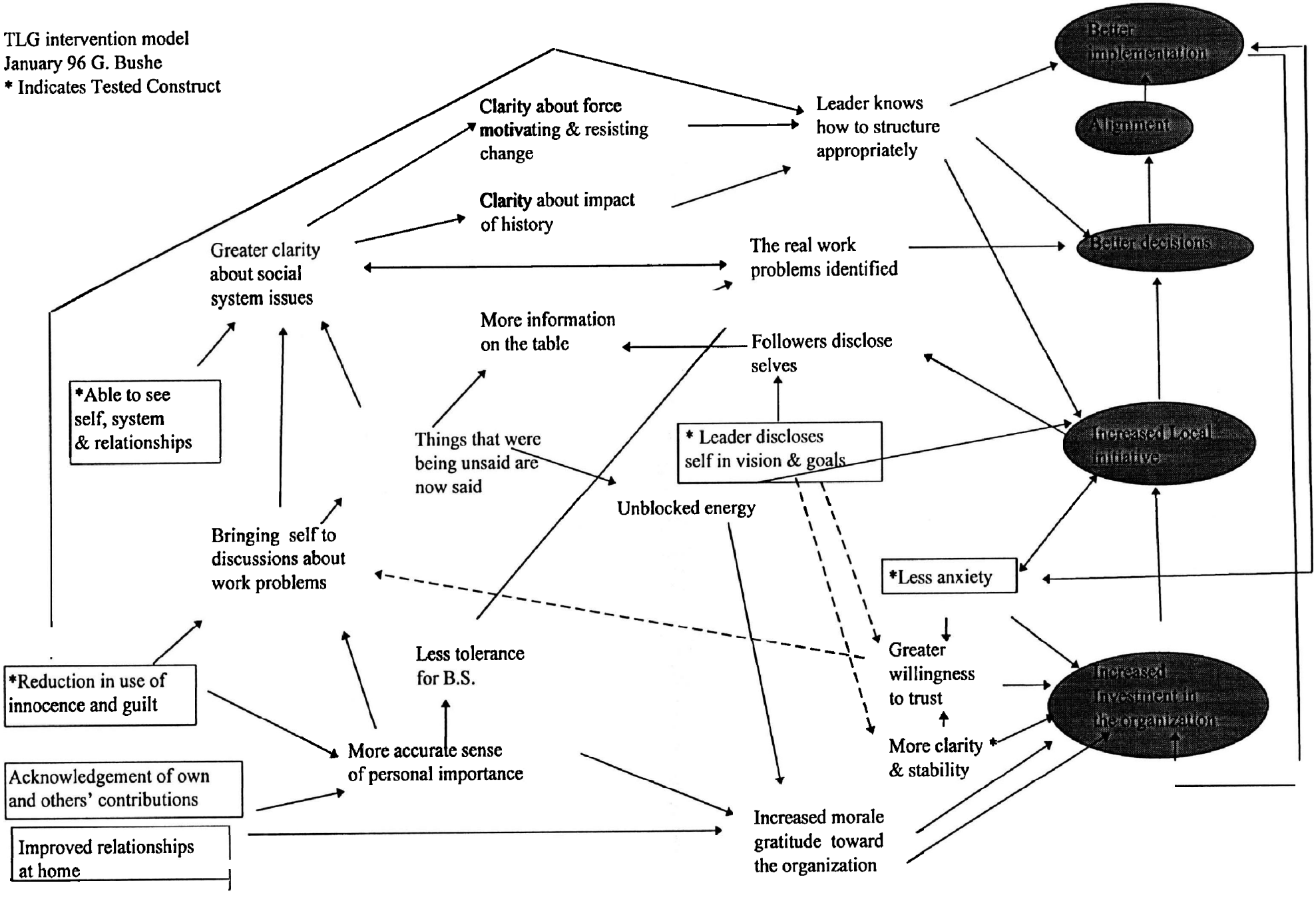
Constructs and Variables

Construct	Description	Variables
1. AWARE—Able to see self, system & Relationships	• Greater clarity about what is useful to do • More likely to inquire about differences with others than to judge • Increased sense about their own part in a dysfunctional process	• is aware of his/her feelings. • is aware of how he/she impacts others. • provides me with clear feedback regarding my contribution to the work process. • seeks to understand me. • makes it easy to understand where he/she is "coming from." • invites me to talk about our working relationship. • wants to know what others want.
2. DISCLOSE MORE—Leader discloses self in vision & goals	• Increased ability to express self	• verbally expresses what he/she is feeling • is willing to acknowledge when he/she is puzzled or confused • express a feeling that doesn't match with their non-verbal behaviour.
3. LESS ANXIETY —Leader projects less anxiety in the work place	• Less reactive and more in charge of self • An expanded sense of what is possible in relationships	• upsets some people without realizing it. • take actions which upset the workplace environment. • take actions which increase anxiety in the workplace. • base his / her decisions on perceptions rather than facts. • cause you anxiety.
4. LESS INNOCENT —Reduction in the use of innocence and guilt	• Increased curiosity • Greater clarity about what is useful to do	• encourages honest work relationships • take responsibility for how his / her actions effect our work relationship. • admit his / her mistakes. • try's to understand the impact he/she has on others.
5. CONTRIBUTION —Acknowledgement of own and others' contribution	• Increased sense of responsibility for choices • Increased sense of opportunity to impact on relationships	• has a realistic perception of the contribution he/she makes to a work project. • accurately appraise his/her contribution to a project.
6. HIDES LESS	Unwillingness to describe self state	Questions: 3,9,21,27,35,47,51,61,65,75
7. REACTS LESS	Not curios about self state or system; reactive	Questions: 1,13,23,25,33,41,49,63,67,77
8. DESCRIBES MORE	Willingness to talk about self state within the group	Questions: 7,15,19,31,37,43,55,57,69,79
9. SYSTEMS-AWARE	Aware of self role within a particular group	Questions: 5,11,17,29,39,45,53,59,71,73

Constructs VI through to IX rely on scripted scenarios which are too detailed to list here. Survey questions associated with each construct are listed. See Appendix D.

Appendix B

Model of Intended SDL Organizational Outcomes


TLG intervention model
January 96 G. Bushe
* Indicates Tested Construct
Better implementation
Alignment
Better decisions
Increased Local Initiative
Increased Investment in the organization
Clarity about force motivating & resisting change
Clarity about impact of history
Leader knows how to structure appropriately
Greater clarity about social system issues
The real work problems identified
More information on the table
Followers disclose selves
*Able to see self, system & relationships
Things that were being unsaid are now said
* Leader discloses self in vision & goals
Unblocked energy
Bringing self to discussions about work problems
*Less anxiety
Less tolerance for B.S.
Greater willingness to trust
*Reduction in use of innocence and guilt
More clarity * & stability
More accurate sense of personal importance
Acknowledgement of own and others' contributions
Increased morale gratitude toward the organization
Improved relationships at home

Appendix C

Associate Report Questionnaire

ANONYMOUS DESCRIPTION OF _____

You have been asked by the above named individual to provide us with a description of their behaviour at work.

This survey is sponsored by Simon Fraser University and BC Tel Education. It will only be seen by researchers at SFU and in no way will it be used to assess the ability or job performance of the individual. The information you provide here will not be seen by the individual you are describing or any other BC Tel employee or manager. The overall results will be used to guide decisions about leadership education at BC Tel.

Your cooperation is strictly voluntary and you may end your participation at any time during this survey.

The information collected here is designed to maintain your anonymity.
You may be asked to repeat this questionnaire in 2 to 4 months. So that we can perform the necessary statistics, we will need to compare both of your surveys. Please choose a 4 digit or letter code that you will use if you are asked to complete a future questionnaire.

PLACE YOUR 4 DIGIT CODE HERE

PLEASE COPY THIS CODE ON THE ATTACHED SHEET AT THE BACK OF THE SURVEY AND KEEP FOR YOUR FILES. THIS WILL ALLOW US TO COMPARE ANY FUTURE ANSWERS ANONYMOUSLY.

Instructions

Please base your description of the individual on specific instances that you have observed in the past month.

Please circle only the one response per question which best reflects your assessment of the individual. If you don't know or are not sure about a question, please circle the "Don't know category at the right of each multiple-response question.

Please complete this survey within the next three days and return to the address below. Thank you for your honest and thoughtful contribution to his study.

If you have any questions, you may direct them to Dr. Gervase Bushe at Simon Fraser University. 291-4104.

Please Return to: Gordon Rein, Faculty of Business Administration
Simon Fraser University Burnaby B.C. V5A 1S6

ANONYMOUS DESCRIPTION OF _____

Circle only the one number per question which best reflects your perception of the person being rated

Section I Opinion Ratings

	This person:	Strongly Disagree	Disagree	Slightly Disagree	Neither	Slightly Agree	Agree	Strongly Agree	Don't Know
1.	is aware of his/her feelings.	1	2	3	4	5	6	7	X
2.	is aware of how he/she impacts others.	1	2	3	4	5	6	7	X
3.	expresses feelings that don't match with their non-verbal behaviour	1	2	3	4	5	6	7	X
4.	communicates what he/she wants from others.	1	2	3	4	5	6	7	X
5.	is likely to under-value their own contribution to a work project.	1	2	3	4	5	6	7	X
6.	values my contributions.	1	2	3	4	5	6	7	X
7.	provides me with clear feedback regarding my contribution to the work process.	1	2	3	4	5	6	7	X
8.	uses feedback from others.	1	2	3	4	5	6	7	X
9.	appreciates me.	1	2	3	4	5	6	7	X
10.	is curious about what others think and feel.	1	2	3	4	5	6	7	X
11.	wants to know the impact he/she has on others.	1	2	3	4	5	6	7	X
12.	wants to know what others are thinking.	1	2	3	4	5	6	7	X
13.	takes the time to learn about others.	1	2	3	4	5	6	7	X
14.	seeks to understand me.	1	2	3	4	5	6	7	X
15.	does a poor job managing people issues.	1	2	3	4	5	6	7	X
16.	ignores other people's needs.	1	2	3	4	5	6	7	X
17.	describes their own feelings and wants when expressing their vision for the group/company.	1	2	3	4	5	6	7	X
18.	does a good job communicating their plans and goals.	1	2	3	4	5	6	7	X
19.	tells the truth about his / her motivations behind his / her actions and decisions.	1	2	3	4	5	6	7	X
20.	makes it easy to understand where he/she is "coming from."	1	2	3	4	5	6	7	X
21.	encourages honest work relationships	1	2	3	4	5	6	7	X
22.	is willing to learn about others in group situations	1	2	3	4	5	6	7	X
23.	generally has a calming effect on others.	1	2	3	4	5	6	7	X
24.	invites me to talk about our working relationship.	1	2	3	4	5	6	7	X

25.	has a realistic perception of the contribution he/she makes to a work project.	1	2	3	4	5	6	7	X
26.	is willing to acknowledge when he/she is puzzled or confused	1	2	3	4	5	6	7	X
27.	wants to know what others want.	1	2	3	4	5	6	7	X

Section II Frequency Ratings: Note the change in the rating scale

	How often does this person:	Never	Rarely	Some-times	Half the time	Often	Usually	Always	Don't Know
28.	ask for support from others.	1	2	3	4	5	6	7	X
29.	verbally express what he/she is feeling.	1	2	3	4	5	6	7	X
30.	express a feeling that doesn't match with their non-verbal behaviour.	1	2	3	4	5	6	7	X
31.	upset some people without realizing it.	1	2	3	4	5	6	7	X
32.	express frustration with others.	1	2	3	4	5	6	7	X
33.	take actions which upset the workplace environment.	1	2	3	4	5	6	7	X
34.	take actions which increase anxiety in the workplace.	1	2	3	4	5	6	7	X
35.	stay cool under pressure.	1	2	3	4	5	6	7	X
36.	gather facts about other people's thoughts and feelings before acting.	1	2	3	4	5	6	7	X
37.	accurately appraise his/her contribution to a project.	1	2	3	4	5	6	7	X
38.	base his / her decisions on perceptions rather than facts.	1	2	3	4	5	6	7	X
39.	take responsibility for how his / her actions effect our work relationship.	1	2	3	4	5	6	7	X
40.	admit his / her mistakes.	1	2	3	4	5	6	7	X
41.	over-value the contribution of others.	1	2	3	4	5	6	7	X
42.	ask you for feedback about his / her behaviour.	1	2	3	4	5	6	7	X
43.	try to understand the impact he/she has on others.	1	2	3	4	5	6	7	X
44.	try to get to the root of interpersonal problems.	1	2	3	4	5	6	7	X
45.	communicate their motives - what they want or intend.	1	2	3	4	5	6	7	X

	How often does this person:	Never	Rarely	Some-times	Half the time	Often	Usually	Always	Don't Know
46.	fail to learn what matters to others.	1	2	3	4	5	6	7	X
47.	fail to listen to other people's needs.	1	2	3	4	5	6	7	X

48.	express strong opinions without asking others how they are impacted by the statement.	1	2	3	4	5	6	7	X
49.	tell the truth about what they like or dislike in a meeting.	1	2	3	4	5	6	7	X
50.	cause you anxiety.	1	2	3	4	5	6	7	X

Section III Demographics

Choose only one answer per question

51) Are you a member of an ongoing work team with this person? 1._____ yes 2._____ no

52) Do you and the person being rated report to the same supervisor? 1._____ yes 2._____ no

53) In relation to the person being assessed, you are currently in a (check one):

1._____ subordinate position 2._____ peer position

3._____ superior position 4._____ other position: please specify _____

54) How often do you interact with this person on a professional basis? (check one)

1._____ less than once per week 2._____ once per week

3._____ two or three times per week 5._____ about once a day

6._____ more than once a day

55) How often do you interact with this person on a social basis outside of work? (check one)

1._____ less than once a month 2._____ about once a month

3._____ two or three times a month 4._____ once a week

5._____ more than once a week

56) How long have you known this person? _____ years(s)

57) Have you taken the Competency Based Leadership training program? 1._____ yes 2._____ no

Thank you for your time and thoughtfulness in completing this survey. Please return it now.

PLEASE KEEP THIS COPY OF YOUR PERSONALLY CHOSEN FOUR DIGIT OR LETTER CODE SO THAT YOUR ANONYMITY CAN BE MAINTAINED IF YOU PARTICIPATE IN A FOLLOW UP STUDY

The information collected in the attached survey is designed to maintain your anonymity. You may be asked to repeat this questionnaire in 2 or 4 months. So that we can perform the necessary statistics, we will need to compare both of your surveys. Please choose a 4 digit code that you will use for both this and a future questionnaire.

PLACE YOUR 4 DIGIT CODE HERE AND RETAIN THIS SHEET FOR YOURSELF

THIS PROCESS WILL ALLOW US TO COMPARE ANY FUTURE ANSWERS ANONYMOUSLY

Questions may be directed to Dr. Gervase Bushe, Simon Fraser University. 291-4104.

DO NOT RETURN THIS SHEET. PLEASE KEEP THIS FOR YOUR FILES.

Appendix D

Control Group Self-Report Questionnaire

SELF ASSESSMENT OF _____

This survey is sponsored by Simon Fraser University and BC Tel Education. The information collected here will be kept in strict confidentiality. It will only be seen by researches at SFU and in no way will it be used to assess your ability or job performance. The information you provide here will not be seen by any other BC Tel employee or manager.

The overall results will be used to guide decisions about leadership education at BC Tel. Your co-operation is strictly voluntary and you may end your participation at any time during this survey.

You may be asked to repeat this questionnaire in 6 to 8 weeks.

Instructions

In the following survey are ten brief scenarios of situations you may face at work. Below each scenario are four different possible reactions - ways people might behave when faced with that situation.

For each reaction, tell us how often you are likely to behave that way, given the scenario, on a 7 point scale from never to always. Please circle one number for each possible reaction and do not leave any unanswered..

Please ignore the odd question numbering.

In order to attain an accurate description, we ask that you answer the following questions as objectively and thoughtfully as possible. Please circle the one response per question which best reflects how you actually behave, not what you intend to do or wish that you did.

Please base your responses on how you have actually acted in similar situations. If you have never been in a similar situation, then imagine, based on your usual behaviour, how you would respond.

Please complete this survey within the next three days and return to the address below.

Thank you for your honest and thoughtful contribution to his study.

If you have any questions, please direct them to Dr. Gervase Bushe at Simon Fraser University. 291-4104.

	You have a long-standing problem with one of your co-workers. You have tried to work it out with him, but the problem continues to disrupt your work life.	Never	Rarely	Now and then	Half the time	Often	Usually	Always
1	You blow off steam with someone you trust.	1	2	3	4	5	6	7
3	You dig in and do your best to ignore both the problem and the team member.	1	2	3	4	5	6	7
5	Because what you normally do with him doesn't work, you decide to change your behaviour when you interact with him.	1	2	3	4	5	6	7
7	You talk with a third person to understand what this team member triggers in you.	1	2	3	4	5	6	7
	You are responsible for a project team. One of your team members comes to you for the third time to complain about another member, and you don't share her judgements. You're frustrated.	Never	Rarely	Now and then	Half the time	Often	Usually	Always
9	You listen and let her complain.	1	2	3	4	5	6	7
11	You schedule a meeting for the three of you.	1	2	3	4	5	6	7
13	You don't necessarily say anything about this team member's continual complaints, but your frustration gets communicated through your tone of voice, your body language, or some inadvertent or unconscious action.	1	2	3	4	5	6	7
15	You describe the impact of the hearing this complaint for the third time, and then you ask this team member about the impact of hearing what you have just said.	1	2	3	4	5	6	7
	As the leader of a project team, you are surprised by a message from your manager that one of your team members is very upset with you and is not the only one that feels this way.	Never	Rarely	Now and then	Half the time	Often	Usually	Always
17	You hold a team meeting with your manager present and you make it clear that anyone who has a complaint with you should come directly to you before going to your manager.	1	2	3	4	5	6	7
19	You tell your manager about the impact of hearing this information indirectly.	1	2	3	4	5	6	7
21	You let the incident go; ignore it.	1	2	3	4	5	6	7
23	You say nothing. At some point, whether you realize it or not, your feelings about the incident make themselves known and affect your work relationships.	1	2	3	4	5	6	7
	You are working hard to complete an important task for a client. Then, as she typically does, your manager tells you to drop everything and attend to a senior manager's request.	Never	Rarely	Now and then	Half the time	Often	Usually	Always
25	With your colleagues, you ventilate your feeling about the senior manager.	1	2	3	4	5	6	7
27	You do as you are told.	1	2	3	4	5	6	7

29	With your colleagues, you encourage your team leader to meet with the senior manager and clarify what the two of them need to do about this disruptive pattern.	1	2	3	4	5	6	7
31	You tell your team leader about the impact of this disruption, and try to get clarity about the priorities	1	2	3	4	5	6	7
	A team member consistently fails to get to you on time, which also causes you to miss your deadliness. When you try to talk with her about the situation, her pattern is always the same: she says she's sorry, and then she explains all the pressure on her.	Never	Rarely	Now and then	Half the time	Often	Usually	Always
33	You repeatedly let the situation go. Then, at some point, you tell her in no uncertain terms that she needs to get her work done on time.	1	2	3	4	5	6	7
35	You give up. You understand her predicament, and you adjust your expectations.	1	2	3	4	5	6	7
37	As she begins one more time to explain her lateness, you interrupt this pattern and describe its impact on you.	1	2	3	4	5	6	7
39	You hold a meeting with her and other team members who are being affected by her pattern of lateness, so that you can talk together about the pressure that all of you are working under.	1	2	3	4	5	6	7
	In the first part of a staff meeting, you become irritated with a team member because you think he is misinterpreting you and negatively judging what you are saying. You become aware that you are avoiding him and not listening to him.	Never	Rarely	Now and then	Half the time	Often	Usually	Always
41	You blow off steam outside the meeting.	1	2	3	4	5	6	7
43	Outside the meeting, you talk with this team member privately, describing his behaviour and your irritation.	1	2	3	4	5	6	7
45	You call for time out in the meeting to explore what you did and the patterns within the team that allowed your behaviour to occur.	1	2	3	4	5	6	7
47	You ignore the irritation and let it pass.	1	2	3	4	5	6	7
	You find yourself regularly spending more time in meetings than you think is necessary. The discussion often wanders and doesn't even involve you or your work.	Never	Rarely	Now and then	Half the time	Often	Usually	Always
49	Maybe you say nothing about how you feel, but let others know - through your tone of voice, body language, lateness, inattention or absence - that the meetings are a waste of time.	1	2	3	4	5	6	7
51	At the next meeting, when the discussion wanders, you ignore the lack of focus and assume that this waste of time comes with the job.	1	2	3	4	5	6	7
53	You look at how your behaviour contributes to keeping the meetings the way they are.	1	2	3	4	5	6	7
55	You describe your experience during the next meeting and invite others to do the same.	1	2	3	4	5	6	7
	Senior managers have directed your team to initiate change, and you think it will create unnecessary work for you and your team-mates. You are also convinced that the change will end in failure.	Never	Rarely	Now and then	Half the time	Often	Usually	Always
57	For others on your team, you describe the change initiative's impact on you (your thoughts and feelings), and you ask about its impact on them.	1	2	3	4	5	6	7
59	You talk directly to your team leader about your concerns, and you support her efforts to influence the way in which the initiatives are carried out.	1	2	3	4	5	6	7
61	You accept the initiative, determined to try hard and make it work.	1	2	3	4	5	6	7

63	You let everybody know, verbally or nonverbally, how you feel about the change initiatives and the senior managers.	1	2	3	4	5	6	7
	During a team problem-solving meeting, you made several points that were ignored.	Never	Rarely	Now and then	Half the time	Often	Usually	Always
65	From now on you keep quiet, censor yourself, and limit your contributions.	1	2	3	4	5	6	7
67	You blurt out your displeasure with how the group is functioning.	1	2	3	4	5	6	7
69	You describe what happens, its impact on you, directly to the people who ignored you.	1	2	3	4	5	6	7
71	You ask for information about how you may be encouraging others not to acknowledge you.	1	2	3	4	5	6	7
	You and your colleagues have been asked to work more as a team, but you're worried because the new reward system is still geared to individual achievement. You also believe that the reward system will promote unhealthy competition and jealousy among team members.	Never	Rarely	Now and then	Half the time	Often	Usually	Always
73	You seek clarity about what you and your team-mates, working together, can and cannot change. Then all of you decide how you will manage the dilemmas as a team.	1	2	3	4	5	6	7
75	You go along with the program but do whatever is necessary for you to score your own points.	1	2	3	4	5	6	7
77	You find your self emotionally upset about team members who are only in it for themselves.	1	2	3	4	5	6	7
79	You describe the impact that the new reward system is having on you, and you invite others to do the same.	1	2	3	4	5	6	7

Thank you for your time and thoughtfulness in completing this survey. Please return it now.

Appendix E

Experimental Group Self-Report Questionnaire

SELF ASSESSMENT OF _____

Survey 2

This survey is sponsored by Simon Fraser University and BC Tel Education. The information collected here will be kept in strict confidentiality. It will only be seen by researchers at SFU and in no way will it be used to assess your ability or job performance. The information you provide here will not be seen by any other BC Tel employee or manager.

The overall results will be used to guide decisions about leadership education at BC Tel.. Your co-operation is strictly voluntary and you may end your participation at any time during this survey.

This survey is the same as one you completed 6-8 weeks ago. Completion of this survey is critical to a scientific assessment of BC Tel leadership development activities. Thank-you for your co-operation.

Instructions

This survey contains the same 10 scenarios and possible responses as one you completed 6-8 weeks ago. However, in addition to describing yourself today, we'd like you to describe yourself a few months ago as well.

For each of the following scenarios, please rate how you see yourself today on the 7 point scale beside T (for today). Think back to how you would rate yourself prior to the first time you completed the survey. Please rate how you saw yourself responding to the same scenarios at that time on the 7 point scale beside the B (for before).

The point is not to try to remember how you rated yourself when you first took this survey. Rather, the point is to compare whether you think you are different now than you were then..

In order to attain an accurate description, we ask that you answer the following questions as objectively and thoughtfully as possible. Please circle the one response per question which best reflects how you actually behave, not what you intend to do or wish that you did. Please base your responses on how you have actually acted in similar situations. If you have never been in a similar situation, then imagine, based on your usual behaviour, how you would respond.

Please complete this survey within the next three days and return to the address below.

Thank you for your honest and thoughtful contribution to his study. If you have any questions, please direct them to Dr. Gervase Bushe at Simon Fraser University, 291-4104.

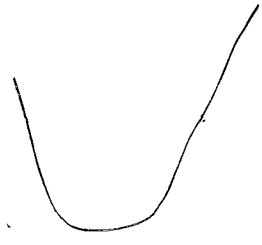
			Never	Rarely	Now and then	Half the time	Often	Usually	Always
	You have a long-standing problem with one of your co-workers. You have tried to work it out with him, but the problem continues to disrupt your work life.								
1	You blow off steam with someone you trust.	T	1	2	3	4	5	6	7
2		B	1	2	3	4	5	6	7
3	You dig in and do your best to ignore both the problem and the team member.	T	1	2	3	4	5	6	7
4		B	1	2	3	4	5	6	7
5	Because what you normally do with him doesn't work, you decide to change your behaviour when you interact with him.	T	1	2	3	4	5	6	7
6		B	1	2	3	4	5	6	7
7	You talk with a third person to understand what this team member triggers in you.	T	1	2	3	4	5	6	7
8		B	1	2	3	4	5	6	7
	You are responsible for a project team. One of your team members comes to you for the third time to complain about another member, and you don't share her judgements. You're frustrated.		Never	Rarely	Now and then	Half the time	Often	Usually	Always
9	You listen and let her complain.	T	1	2	3	4	5	6	7
10		B	1	2	3	4	5	6	7
11	You schedule a meeting for the three of you.	T	1	2	3	4	5	6	7
12		B	1	2	3	4	5	6	7
13	You don't necessarily say anything about this team member's continual complaints, but your frustration gets communicated through your tone of voice, your body language, or some inadvertent or unconscious action.	T	1	2	3	4	5	6	7
14		B	1	2	3	4	5	6	7

15	You describe the impact of the hearing this complaint for the third time, and then you ask this team member about the impact of hearing what you have just said.	T	1	2	3	4	5	6	7
16		B	1	2	3	4	5	6	7
	As the leader of a project team, you are surprised by a message from your manager that one of your team members is very upset with you and is not the only one that feels this way.		Never	Rarely	Now and then	Half the time	Often	Usually	Always
17	You hold a team meeting with your manager present and you make it clear that anyone who has a complaint with you should come directly to you before going to your manager.	T	1	2	3	4	5	6	7
18		B	1	2	3	4	5	6	7
19	You tell your manager about the impact of hearing this information indirectly.	T	1	2	3	4	5	6	7
20		B	1	2	3	4	5	6	7
21	You let the incident go; ignore it.	T	1	2	3	4	5	6	7
22		B	1	2	3	4	5	6	7
23	You say nothing. At some point, whether you realize it or not, your feelings about the incident make themselves known and affect your work relationships.	T	1	2	3	4	5	6	7
24		B	1	2	3	4	5	6	7
	You are working hard to complete an important task for a client. Then, as she typically does, your manager tells you to drop everything and attend to a senior manager's request.		Never	Rarely	Now and then	Half the time	Often	Usually	Always
25	With your colleagues, you ventilate your feeling about the senior manager.	T	1	2	3	4	5	6	7
26		B	1	2	3	4	5	6	7
27	You do as you are told.	T	1	2	3	4	5	6	7
28		B	1	2	3	4	5	6	7

29	With your colleagues, you encourage your team leader to meet with the senior manager and clarify what the two of them need to do about this disruptive pattern.	T	1	2	3	4	5	6	7
30		B	1	2	3	4	5	6	7
31	You tell your team leader about the impact of this disruption, and try to get clarity about the priorities	T	1	2	3	4	5	6	7
32		B	1	2	3	4	5	6	7
	A team member consistently fails to get to you on time, which also causes you to miss your deadliness. When you try to talk with her about the situation, her pattern is always the same: she says she's sorry, and then she explains all the pressure on her.		Never	Rarely	Now and then	Half the time	Often	Usually	Always
33	You repeatedly let the situation go. Then, at some point, you tell her in no uncertain terms that she needs to get her work done on time.	T	1	2	3	4	5	6	7
34		B	1	2	3	4	5	6	7
35	You give up. You understand her predicament, and you adjust your expectations.	T	1	2	3	4	5	6	7
36		B	1	2	3	4	5	6	7
37	As she begins one more time to explain her lateness, you interrupt this pattern and describe its impact on you.	T	1	2	3	4	5	6	7
38		B	1	2	3	4	5	6	7
39	You hold a meeting with her and other team members who are being affected by her pattern of lateness, so that you can talk together about the pressure that all of you are working under.	T	1	2	3	4	5	6	7
40		B	1	2	3	4	5	6	7
	In the first part of a staff meeting, you become irritated with a team member because you think he is misinterpreting you and negatively judging what you are saying. You become aware that you are avoiding him and not listening to him.		Never	Rarely	Now and then	Half the time	Often	Usually	Always
41	You blow off steam outside the meeting.	T	1	2	3	4	5	6	7

42		B	1	2	3	4	5	6	7
43	Outside the meeting, you talk with this team member privately, describing his behaviour and your irritation.	T	1	2	3	4	5	6	7
44		B	1	2	3	4	5	6	7
45	You call for time out in the meeting to explore what you did and the patterns within the team that allowed your behaviour to occur.	T	1	2	3	4	5	6	7
46		B	1	2	3	4	5	6	7
47	You ignore the irritation and let it pass.	T	1	2	3	4	5	6	7
48		B	1	2	3	4	5	6	7
	You find yourself regularly spending more time in meetings than you think is necessary. The discussion often wanders and doesn't even involve you or your work.		Never	Rarely	Now and then	Half the time	Often	Usually	Always
49	Maybe you say nothing about how you feel, but let others know - through your tone of voice, body language, lateness, inattention or absence - that the meetings are a waste of time.	T	1	2	3	4	5	6	7
50		B	1	2	3	4	5	6	7
51	At the next meeting, when the discussion wanders, you ignore the lack of focus and assume that this waste of time comes with the job.	T	1	2	3	4	5	6	7
52		B	1	2	3	4	5	6	7
53	You look at how your behaviour contributes to keeping the meetings the way they are.	T	1	2	3	4	5	6	7
54		B	1	2	3	4	5	6	7
55	You describe your experience during the next meeting and invite others to do the same.	T	1	2	3	4	5	6	7
56		B	1	2	3	4	5	6	7
	Senior managers have directed your team to initiate change, and you think it will create unnecessary work for you and your team-mates. You are also convinced that the change will end in failure.		Never	Rarely	Now and then	Half the time	Often	Usually	Always

57	For others on your team, you describe the change initiative's impact on you (your thoughts and feelings), and you ask about its impact on them.	T	1	2	3	4	5	6	7
58		B	1	2	3	4	5	6	7
59	You talk directly to your team leader about your concerns, and you support her efforts to influence the way in which the initiatives are carried out.	T	1	2	3	4	5	6	7
60		B	1	2	3	4	5	6	7
61	You accept the initiative, determined to try hard and make it work.	T	1	2	3	4	5	6	7
62		B	1	2	3	4	5	6	7
63	You let everybody know, verbally or non verbally, how you feel about the change initiatives and the senior managers.	T	1	2	3	4	5	6	7
64		B	1	2	3	4	5	6	7
	During a team problem-solving meeting, you made several points that were ignored.		Never	Rarely	Now and then	Half the time	Often	Usually	Always
65	From now on you keep quiet, censor yourself, and limit your contributions.	T	1	2	3	4	5	6	7
66		B	1	2	3	4	5	6	7
67	You blurt out your displeasure with how the group is functioning.	T	1	2	3	4	5	6	7
68		B	1	2	3	4	5	6	7
69	You describe what happens, its impact on you, directly to the people who ignored you.	T	1	2	3	4	5	6	7
70		B	1	2	3	4	5	6	7
71	You ask for information about how you may be encouraging others not to acknowledge you.	T	1	2	3	4	5	6	7
72		B	1	2	3	4	5	6	7



			Never	Rarely	Now and then	Half the time	Often	Usually	Always
	You and your colleagues have been asked to work more as a team, but you're worried because the new reward system is still geared to individual achievement. You also believe that the reward system will promote unhealthy competition and jealousy among team members.								
73	You seek clarity about what you and your team-mates, working together, can and cannot change. Then all of you decide how you will manage the dilemmas as a team.	T	1	2	3	4	5	6	7
74		B	1	2	3	4	5	6	7
75	You go along with the program but do whatever is necessary for you to score your own points.	T	1	2	3	4	5	6	7
76		B	1	2	3	4	5	6	7
77	You find your self emotionally upset about team members who are only in it for themselves.	T	1	2	3	4	5	6	7
78		B	1	2	3	4	5	6	7
79	You describe the impact that the new reward system is having on you, and you invite others to do the same.	T	1	2	3	4	5	6	7
80		B	1	2	3	4	5	6	7

	Section II Personal Assessment	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree
81	I am able to apply the principles of Competency Based Leadership Training to my work place.	1	2	3	4	5	6	7
82	I understand the skills that were taught at this course.	1	2	3	4	5	6	7
83	The training received on this course is helpful in my work life.	1	2	3	4	5	6	7
84	The training received on this course is helpful in my personal life.	1	2	3	4	5	6	7
85	My work environment has improved as a result of this training.	1	2	3	4	5	6	7
86	My supervisor is supportive of my efforts to apply this training	1	2	3	4	5	6	7

87	My co-workers are supportive of my efforts to apply this training.	1	2	3	4	5	6	7
88	The time demands of my job interfere with my ability to apply this training to the work place.	1	2	3	4	5	6	7
89	The reward system of my job encourages me to apply this training to the work place.	1	2	3	4	5	6	7
90	The organizational culture of my work environment interferes with my ability to apply this training to the work place.	1	2	3	4	5	6	7

Thank you for your time and thoughtfulness in completing this survey. Please return it now.