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THE INFLUENCE OF TRAINING EVALUATIONS ON THE TRAINING TRANSFER: AN EXPERIENCE IN A MULTINATIONAL VENEZUELAN–AMERICAN CORPORATION

DISSERTATION

Presented in partial fulfillment of the requirements for the degree of

Doctor of Philosophy in Educational Leadership

with a Global Perspective

LYNN UNIVERSITY

By

NERZA REY DE POLANCO

April 2005

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The Influence of Training Evaluations On The Training Transfer: An Experience in a Multinational Venezuelan – American Corporation

By: Nerza Rey de Polanco, Ph.D.

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U.M.I.

300 N. Neeb Road

Ann Arbor, MI 48106

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THE INFLUENCE OF TRAINING EVALUATIONS ON THE TRAINING TRANSFER: AN EXPERIENCE IN A MULTINATIONAL VENEZUELAN – AMERICAN CORPORATION

Nerza Rey de Polanco

Approved by:

Dr. Frederick L. Dembowski,
Dissertation Committee Chairperson

Dr. Lori Wolin,
Dissertation Committee

Dr. Ernesto J. Ojeda,
Dissertation Committee

DEDICATION

*Specially for you **Armando**, my loving and supportive husband, for humbly and warmly accepting the sacrifices that made me absent from home, and for always having encouraged me to reach another goal in my life.*

Nerza

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THE INFLUENCE OF TRAINING EVALUATIONS ON THE TRAINING TRANSFER: An Experience in a Multinational Venezuelan – American Corporation

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ABSTRACT

Literature in the area recognizes that one of the best ways to reach training effectiveness is by increasing the rate of training transfer. However, people often are not able to successfully apply what they learn in training back to their work. This study proposes that to achieve a positive training transfer rate it is necessary to develop and implement a formal evaluation training system, which is able to track all factors- individual and organizational- affecting transfer effectiveness before and after training occurs. In order to empirically demonstrate the influence of the pre and post- training evaluations on the transfer rate, a case study was conducted. An American-Venezuelan Corporation was the setting to examine the relationships between the dependent variable, *positive training transfer,* and the two primary independent variables, the *pre-training evaluation and post-training evaluations.* The research utilized a multi-method approach combining quantitative design predominantly, and qualitative design as an alternative technique. The results obtained from the three sources used, questionnaires applied to 215 trainees, in-depth interviews conducted to 8 trainees, and existing data reporting the transfer rate of each trainees surveyed, leaded the researcher to demonstrate the relationship between both variables studied. Insightful empirical evidence gathered from findings could be useful to those who constitute the main audience of this research, HR practitioners and other researchers involved in the training arena.

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CHAPTER I

INTRODUCTION

Statement of the Problem

Top management expects to obtain positive financial benefits from the training investment spent annually. Research divulges, "training must demonstrate improved performance and financial results" (Garavaglia 1993, p. 63); however, training does not always translate into effective behaviors and organizational results (Newtrom, 1986, cited in Kraiger, 2002). Learning is of little value to organizations, unless it is transferred in some way to performance (Holton, Bates, Seyler, and Carvalho, 1997). As a result, training practitioners and researchers have intensified the need to realize effective training and measure its results.

Literature review in the field reveals that one of the best ways to reach training effectiveness is increasing the rate of training transfer. Training transfer involves the effective application of new knowledge, skills, and attitudes (KSA's) gained through training interventions to job performance tasks, and the maintenance of this application over time (Bladwin & Ford, 1988). The real value of training come not from individual learning but rather from having capable people transferring their knowledge, skills, and attitudes (KSA's) learned in training programs designed to improve organizational results.

In spite of the positive training transfer influence to achieve successfully organizational goals (Baldwin & Burke, 1999, Tannenbaum, 1997, Hoekstra, Erik, 2003); research in this area suggests that only an estimate as 10 percent of the money spent on

training leads to changes in training behavior back on the job (Georgenson, 1982, cited by Werner, O'Leary-Kelly, Baldwin, and Wexley (1994). Even though the 10% transfer rate has been the object of debate, recent studies have demonstrated the lack of opportunity to transfer training on the job (Saks, 2002; Fitzpatrick, 2001). Supporting this matter, more recently, Newstrom has written, that only 15 percent of the skills learned in training remain with trainees one year after training (Garavaglia 1993, cited by Werner, O'Leary-Kelly, Baldwin, and Wexley (1994). Conversely, Broad and Newstrom (1992) talking about their experiences with a wide range of organizations stated, "transfer problems nearly occurred when training employees" (cited by Machin, in Kraiger, Kurt. Editor, 2002; p. 263). As a result, an increasing body of the literature is looking for ways to combat this pervasive "transfer problem" (Baldwin and Ford, 1988, cited by Werner, O'Leary-Kelly, Baldwin, and Wexley (1994).

There are important reasons as to find out why the rate of training is low in most organizations. An argument has been pointed out by Molinaro (2003), who states, "One of the main reasons for poor training transfer is that there is still a strong tendency to view training as an isolated event rather than an ongoing process" (p.1).

It means that training is not understood as a key strategic tool linked with the organizational challenges of growth and competitiveness. Managers usually place training at the bottom of their priorities. This common practice is negative, because organizational and managerial support is decisive to achieve a higher level of training transfer. Several authors in the area agree that training transfer is improbable to occour despite the best efforts of training designers to develop and deliver excellent training programs, unless the organizations provide an adecuate workplace climate to use of trained SKA's on the job (e.g. Rouiller & Goldsteim, 1993; Tannenbaum, 1997). In

addition, other authors (Elangovan & Karakowsky, 1999, and Tracey, Hinkin, Tannenbaum, & Mathieu, 2001), recognize the influence of individual factors, such as motivation and ability and its transfer results. Therefore, the transfer problem becomes complex, due to the presence of numerous factors –organizational and individuals affecting transfer rate.

Additionally, literature recognizes that evaluation of training transfer is not a common practice nowadays. For instance Kraiger (2002) draws attention to a study conducted in 2001 by the American Society for Training and Development to 365 companies, which reported that " Although most organizations measure trainee reactions, less than half measured instructional outcomes, and less than a fifth of the measure showed learning was applied on the job" (p. 341). What is called evaluation of training is often a measure of employees' reaction to an enjoyment of the training delivery (Bramley, 1996, cited in Yabome, 2003). Another study conducted by Bassi and Ahlstrand (2000) to two thousand organizations in thirty four countries reported that, "many of the measures used for assessing the impact of investment in training do not look different from those that might have been used thirty or forty years ago (ASTD, 2000, cited by Kraiger, 2002, p. 331).

Furthermore, literature about evaluation of training reveals that the process of measuring training often seems very confusing and complex. Practitioners face a plethora of models, formulas, and statistics that often frighten them. Spitzer and Conway (2002) state some shortcoming why measuring training has been bypassed, "the lack of appropriate methods, and not focusing on measuring training before the training occurs, but after the fact. Lack of understanding about how to link training to business results" (p.1). As a result, evaluation of training transfer is often disregarded, even though the

presence of training transfer's models outlined by researchers such as, Baldwin and Ford (1998), Noe (1986), Thayer and Teachout (1995), Holton (1996), Tracey, J., Hinkin, T., Tannenbaum, S., & Mathieu, J. (2001), Machin (2002) and others. Because successful transfer of training encompasses multiple individual and organizational factors, an effective follow-up through suitable pre and post evaluations is needed for increasing the transfer and ensuring the training return on investment (ROI). Evaluating transfer requires an understanding of those factors that have been found to raise transfer or inhibit it.

Based on the previous, findings revealed along the specialized literature, two deep-rooted problems come together to uncover a single one. Therefore, the problem as understood in this study consists on a low rate of training transfer and the absence of effective training evaluation system to support positive training transfer and demonstrate training results.

Practical implications of the failure to increase the rate of training transfer and demonstrate business results in training are evident. The most important implications are related to management dissatisfaction, lack of credibility of training activities, reduction of training budget, waste of time and money, and the critical organizational inability to be up-dated and to be competitive. Unless the problem can be solved, organizational support for future investments in training activities may be reduced. Therefore, it is imperative to find suitable solutions. Moreover, since training is recognized as a key factor in improving and maintaining organizational productivity (Milner, 2002), organizations should do their best efforts to keep the rate of transfer as a strategic element facilitating better return on investment (ROI) in the development of human resources (Garavaglia, 1993). In fact, several studies have demonstrated that the macro-level organizational

performance is impacted positively through the effectiveness of the training efforts (Tannenbaum, 1992, Hoekstra, 2003).

The above implications suggest that the lack of appropriate systems to evaluate training results, as well as the low transfer rate, involve not only human resource (HR) professionals and practitioners, but also pose a problem for trainers, managers and executives, supervisors, trainees, and other professionals with an interest in training. According to Parry (1997), trainers want to know what impact their programs are having on individuals and the organization. Managers and executives want to know what the return on training investment is. Trainees and supervisors want to know what kind of payoff they can expect from taking time away from productive work to participate in training activities. Since the problem involves almost the entire organization, special attention is an imperative responsibility of researchers and training practitioners.

Traditionally, HR professionals face a difficult environment to enhance the transfer of training in their organizations and to implement appropriate evaluations. Most organizations deal with scarce resources and hard-pressed goals. Consequently, Molinaro (2003) state that "...managers and employees are often too busy to implement overly formal and complicated procedures" (p.2). The problem becomes more complicated "because the training outcomes pertain to trainees (behavior), and organizations (results), estimate of transfer of training should consider both behavior and results criteria" (Saks, 2002, p. 29). It seems that training transfer depends not only on the quality of the training process but also on the interaction of trainee attitudes and management practices. Additionally, training will be successful if it accomplishes four objectives: participants like the program; participants gain needed knowledge and skills; participants apply what they learned to their jobs; and participants assist the company in achieving its mission and

objectives (Kirkpatrick, 1996). This scenario, replete of demanding conditions, illustrates the complexity of any effort to evaluate training and to obtain concrete results from those who have been trained. Undoubtedly, it is a hard and arduous goal for HR professionals to help organizations enhance the training transfer rate and maximize the return on training investments.

Purpose

In order to deal with the challenge of how to make the training investment worthwhile for the organization, this study proposes that to achieve a positive training transfer rate, it is necessary to develop and implement a formal evaluation training system, which may be able to track all individual and organizational- factors that affect transfer effectiveness before and after training occurs.

The main purpose of this study is to examine the relationships between the dependent variable, *positive training transfer,* and the two primary independent variables, the *formal pre training evaluations and formal post training evaluations.* The examination is aimed to determine if the use of formal training evaluations designed with transfer purposes, before and after training occurs, contributes to support positive training transfer rates.

Two important set of contributions would be achieved if findings demonstrate that pre-and-post training evaluations are able to influence the training transfer rate. At the practitioners' level, they might meet convincing findings to consider changing their traditional pattern of use of the training evaluations, as a mere reactive tool. Moreover, the generally training units' belief that conducting rigorous evaluations "...may have everything to lose and nothing to gain from the data" (Kraiger, 2002. p. 340), might be changed. Therefore, empirical evidence might be useful for practitioners to replace old

traditional evaluations' schemes in lieu of newest predicting training evaluations' models. This new practice may lead them to make the training investment worthwhile for their organizations.

At the training research field, positive findings might reinforce modern training evaluations' approaches, which currently are to be tested. Those approaches go beyond the traditional Kirkpatrick's four levels model. Kirkpatrick's levels for training evaluation proposed since the 1950s involve measuring training reaction, learning, behavior and results (Kirkpatrick, 1994). Despite its extensive acceptation, this hierarchical model has been criticized for having little grounding in theory (Kraiger, 2002). In fact, Holton (1996) points out " Not surprinsingly, Alliger and Janak (1989), in a comprehensive study on the 4 levels model stated that the implied causal linkages between each level of the taxonomy had not been demonstrated by research" (p. 6). Likewise, Donavan & Hannigan (1999) recognize that other failure of Kirkpatrick's model is "the absence of essential elements from the model. The major intervening variables that affect learning, such as, trainee readiness, motivation, training design and reinforcement of training on the job, are not specified in the four-level model" (p.10). Therefore, this research study would be an empirical evidence to support those holistic approaches, which recognize that, "Evaluation should be used to amplify the learning experience through the early integration of evaluation processes..." (Michelli and Haskins,1997 cited by Donavan, and Hannigan, 1999, p.12).

In addition, the inclusion of a third qualitative research question exploring key training context factors extends literature regarding those factors affecting transfer rates. Lastly and foremost, it is important to point out that a comprehensive review of literature supporting transfer of training, as a hub of the training, has demonstrated the influence of

numerous factors impacting transfer of training, and a plentiful strategies to enhance transfer rates; for instance, Werner, O'Leary-Kelly, Baldwin, and Wexley (1994), investigated whether the addition of pre-and/or post-training interventions would enhance training effectiveness. However, research regarding how to evaluate those results, and most important what impact those evaluations have on the transfer of training has been disregarded. In summary, those previous arguments motivate the conduction of this study.

The theoretical foundation of this study relies on contemporary theories of learning and behavior applied at the organizational context, as well as on previous studies relating to *training transfer*, and *evaluation of the training*. Both of these research fields are addressed separately to derive another line of inquiry towards *positive training transfer supported by formal evaluation training systems*. Many years ago, Dewey (1910) stated, "A difficulty clearly apprehended is likely to suggest its own solution" (p. 94). Following that thought, this study suggests solutions to enhance transfer rate, which have been apprehended from tested factors that hinder achieving positive training transfer rate. As a result, it is expected that careful attention to observe *trainees* before, and after training, as well as keeping a close track on the *organizational context*, might increase the rate of training transfer. Basically, this research develops a theoretical framework that places the evaluation training system as an effective means not only to increase the rate of training transfer, and demonstrate quantitative and qualitative training results, but also taking advantage of the psychological effects that evaluations cause on trainees when they are being observed and assessed.

Case Study Setting

In order to demonstrate empirically the likely influence of a formal evaluation training system on the training transfer rate, the research is conducted as a case study. The setting for the study is a single case, DANA VENEZUELA (DANAVEN), a subsidiary of a multinational American company DANA CORPORATION, which produces automotive parts. DANAVEN provides an ideal context to conduct this study because this corporation has been applying a formal training evaluation system in the last five years. In addition, DANAVEN has been at the frontier of good human resources practices (benchmarking, 6 sigma, Kaisen, pay based on knowledge, total quality, and so forth) with an increased emphasis on training and development activities. The corporation invests 2% of its budget and delivers an average of eighty hours of training to each of its 1200 employees annually.

DANAVEN tailored an unique evaluation training system adapted to its organizational needs, which has been implemented from 1999. The design of the training evaluation system was inspired on three approaches, the four levels of Kirkpatric's model (1996), the return on investment in training (ROI) of Jack Phillips (1997), and the model developed by Easterby-Smith (1986) called CAIPO (acronym used to refer Contex, Administration, Inputs, Process, and Outputs).

The DANAVEN's training evaluation system is composed of five levels of evaluation, as follow: 1) Level 0, takes into account inputs and process (before training). 2) Level 1, evaluates trainees' satisfaction and potential applicability of KSA's on the job (at the end of the training). 3) Level 2, evaluates learning (during training). 4) Level 3, evaluates job application of KSA's on the job, (1 to 6 months after training program). 5) Level 4 evaluates the business impact (1 to 6 months after training program) .

The evaluation of the five preceding levels includes the development, collection, analysis, and reporting of various types of evaluation data before, during and after training takes place. Using this training evaluation system DANAVEN has developed an organizational training-oriented culture. Specific details of DANVEN's training evaluation system are fully provided on chapter II. Undeniably, the organization under study provides a suitable case for examining the influence of pre-and-post training evaluations on the transfer rate in the light of its experience.

Variables Definitions

Dependent Variable (DV) Positive Training Transfer

In this study a positive training transfer occurs when the trainee applies the new KSA's acquired on the job immediately or during a period no longer than six (6) months. The application must generate tangible or intangible results which impact positively the goals and business objectives. The training transfer becomes a rate when it is scored on a scale 0 to 100% by trainees' supervisors. In order to obtain a definitive score, immediate supervisors compare trainees' training results against established goals. The criterion to determine the transfer rate in DANAVEN is fully explained in chapter II.

Independent Variables (IV) Formal pre and post training evaluations

It includes a set of evaluations designed by the organization to reach three important objectives: to assure that employees apply new KSA's on the job (training transfer); to determine added value and effectiveness of training interventions; and to demonstrate training results through training indicators. Those evaluations are part of the

normative policy and must be sumited by trainee their immediate supervisors before, during, and after any training activity.

Pre-training evaluations encompass that information gathered before the training intervention occurs. Its objective is to avoid unproductive training interventions by identifying key pre-training factors affecting the transfer results. The examination includes 14 items measured through three constructs:

- Pre-training Motivation with six sub-variables: Trainee preparation, Content information, Training reputation, Freedom to choose, Personal expectations, and background
- Training Needs Assessment with three constructs: Training needs and job requirements, Training needs and organizational objectives, and Type of training needs
- Training Goals Setting, that includes two sub variables: qualitative and quantitative goals.

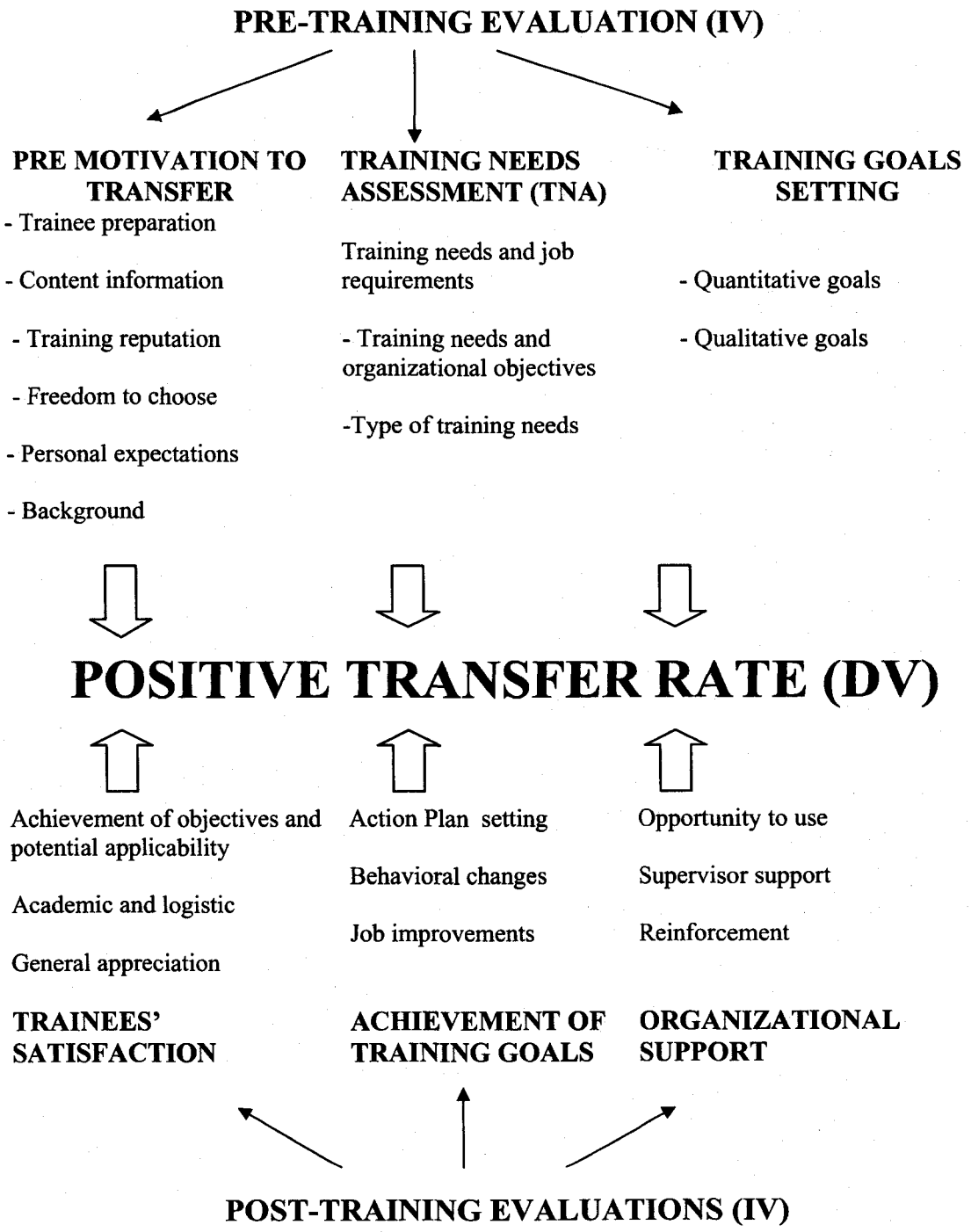
Post-training evaluations encompass the information gathered at the end of the training program, and after trainees return to their jobs. Its objective is assuring an effective accomplishment of those training goals/expectations enunciated previously. The elements to be examined at post-training level include 13 items measured through three constructs.

- Trainees' satisfaction, that includes three sub-variables: Achievement of objectives and potential applicability, Academic and logistic , and General appreciation.
- Achievement Training Goals with three sub-variables: Action Plan Setting, Behavioral changes, Job improvements.

- Organizational Support, composed of Opportunity to use, Supervisor support, and Reinforcement.

In summary the following figure # 1 "Conceptualization of relationships between dependent variable and independent variables" shows the set of variables studied. This information is fully discussed in the chapter 2 and 3.

FIGURE # 1: Conceptualization of Relationships between the dependent variable and the independent variables



Research Question

This research makes an effort to demonstrate that a training evaluation system properly implemented, before and after each training intervention, should be an effective tool for increasing the transfer rate. Therefore, the study poses three major research questions:

1. What is the relationship among measures of transfer training rate and the use of **pre-training** evaluations?
2. What is the relationship among measures of transfer training rate and the use of **post-training** evaluations?
3. What **key factors** within and outside the **training context** could influence the rate of training transfer in DANAVEN, and what **extra factors** could be added to improve its evaluation training system?

The research utilizes a multi-method approach combining quantitative design predominantly, and qualitative design as an alternative technique. A questionnaire and an existing data are complemented with qualitative interviews in the data collection phase. The questions one and two are examined under a quantitative method. A tailored questionnaire is to be applied to all targeted population (employees who have been trained at least one time in the last six months). The purpose of the questionnaire is to identify the trainees' opinions regarding the power of pre and post training evaluations so as to track each key *training context factors* and consequently to influence the training transfer rate. In order to link evaluations and transfer, the trainees are asked about a specific training program attended by them in the last six months. This information is

taken from training personnel's records. Then, different kinds of programs are evaluated by participants when responding their questionnaires.

Their responses allow the researcher to know how well these evaluation instruments used before and after training events were able to track each key individual and organizational factor affecting the transfer training rate. The score obtained from each questionnaire is contrasted against real rate of transfer obtained from to the specific training program that the participant evaluated. At a qualitative level, eight people were interviewed to answer the third question. The interviews aimed to investigate how well the current evaluation training system has pushed the effectiveness of training, and also, it tries to identify opportunities to improve its design. The results obtained from the sources used, questionnaires, interviews, and existing data allows the researcher to demonstrate the relationship between both variables studied, as well as to identify key factors that can be more relevant and useful for a successful management of evaluation training systems at DANAVEN in the future.

Scope and Delimitations

The scope of this study is specifically focused on the influence of training evaluation systems as predictive tools to modify the training transfer rate, and consequently business results. The fundamental purpose of training is to help people develop skills and abilities which, when applied at work, will enhance their average job performance. Tziner, A., Haccoun, R. (1991) stated, "the ultimate purpose of training evaluation must be to assess the level of on-job training transfer" (167). In that sense, this study considers *transfer of training* as the best criterion to demonstrate training effectiveness, since it can produce tangible and/or intangible training results. In fact, no return on training investment can be

calculated if transfer of training does not occur. Machin in Kraiger (2002), supports the previous premise when he affirms, "When training does not transfer it is likely that employees will perceive training to be a waste of their time and employers will continue to question the benefit of their investment in it" (p. 263).

Limitations

As the research deals with multi-causal issues, several inherent limitations exist. First, the operational measures are based on the specific design of the training evaluation system used by DANAVEN. In this sense, the study only considers those factors of transfer included into the current DANAVEN system. As a result it excludes other further factors affecting transfer rate identified by other researchers, such as locus of control, (Tziner & Haccon, 1991), peer support (Holton, Bates, & Rouna (2000), and other organizational and individual factors.

Second, because the study was conducted at one manufacturing plant located in Valencia, Venezuela, language limitations to code and decode interview's information, surveys, and existing data in both idioms -Spanish and English, were confronted. Also, employees hiring and dismissals were elements out of the researcher control, and they affect the historical data.

Finally, since the type of analysis developed, the instruments utilized, the measurements used, and the findings found pertain to a single corporation under study, transfer of study findings to other organizations may be limited. Therefore, further research in different organizational contexts, with sophisticated research techniques, will be required in order to reinforce this line of inquiry.

Significance of the Study

The major importance of this research lies on its effort to connect two critical issues belonging to the training research field, training transfer and evaluation of training through a created construct, positive training transfer supported by formal evaluation training systems. Various arguments support this intention. First, Nassar (2002) states, "Reliable measurement of the transfer rate is a key component needed to insure the effectiveness of training program" (p.9). Second, methods of training measurement have not advanced very far. Kirkpatrick (1996) was still able to state that, "although many contributions have been made to the literature since the 1950s, content has remained basically the same" (p.54). Alliger, et al, (1997), pointed out that, a thorough model of training effectiveness needs to include many more variables than are typically included in the taxonomy of training outcome criteria, such as the Kirkpatrick model. Third, some researches and practitioners recognize that most assessments seem to be designed with an inappropriate purpose in mind, which "just may be throwing good money after bad" (Tyler, 2000). Lastly, Spitzer and Conway (2002), stated that "While almost everyone believes that there must be a causal relationship between training and business results, few organizations are able to assess the effectiveness of their training interventions"(P.1). The literature recognizes that, only an infinitesimal number of companies in Venezuela used suitable systems to evaluate training results (Granell, 1998). Likewise, the annual report conducted by the American Society for Training and Development reported that only 3% of all training courses in the United States are evaluated for business impact. (ASTD, 1999). Moreover, a study conducted in Europe (UK, Finland, and Portugal) reports that only 9% of their programs are evaluated in monetary terms (Mathews, B, et al, 2001). These arguments reinforce the evident need to expand and utilize innovative

and credible approaches to measure the training effectiveness. It means to develop a dynamic approach to know not only a numerical result, but also to encourage trainees to apply the new KSA's on the job, as well as to persuade decision makers to create and maintain a positive transfer environment. In addition, an indirect contribution is given through the DANAVEN's training evaluation system used to test the variables studied. This system poses a methodology to track transfer rate through pre- and-post evaluations, recognizing the complex interactions that take place when training occurs ; therefore, its scope expands the usefulness of Kirkpatrick's model to suit more property the demands and capabilities of professionals into the training marketplace. In fact, the evaluation system under study takes into account a set of factors affecting transfer rate, such as trainee preparation, content information, personal expectations, trainee's background, training assessment needs, and so on, which were grounded in theory by other researches. The DANAVEN's background can be seen as an indirect contribution, since the main purpose of this study is to demonstrate the relationship between training evaluation variables as a predictor of training transfer rate, rather than propose a methodology for evaluating training transfer.

By the side of DANA VENEZUELA, this research represents a supportive contribution to validate the effectiveness of its system and to reinforce its current design. Additionally, if positive evidence is found, the DANAVEN evaluation training system should be extended as a corporate policy to other DANA companies located in 30 countries around the world (DANA Web Homepage, 2004). On a personal level, conducting this study offer this researcher the opportunity to track and deepen vital issues for successful professional roles, either as a professor of training subject at the UNIVERSIDAD DE CARABOBO and as an HR consultant for private firms. It also

provides a bridge between the researcher's perceptions based on her background and the empirical evidence that was to be found in this study.

Finally, a set of recommendations, and insightful empirical evidence gathered from findings could be useful to those who constitute the main audience of this research, practitioners and other researchers involved in the training arena.

So far, an introductory picture of this research has been described in this first chapter, including a section of terms as an appendix of this section. The next chapters will expand fully the literature reviewed in chapter 2, and Research Design in chapter 3. Both chapters play a vital role to build a solid theoretical foundation, and to understand the path chosen to conduct the present research. Chapter 4, examines quantitative and qualitative data and provides the results. Finally, chapter 5 summarizes the main findings, conclusions and implications to offer readers a comprehensive understanding on the pertinence of connecting evaluation of training to transfer rate.

Definition of Terms

KSA's— acronym used to refer knowledge, skills and attitudes.

Kirkpatrick's four level Model— developed by Dr. Donald Kirkpatrick in 1959, it is the most popular model used by practitioners to evaluate the training activities. The model is based upon the premise that training programs can be evaluated at four levels of training outcomes: **1. Reaction**: trainees' reactions to the program content and training process. **2. Learning**: attempts to measure the degree to which the trainee changes attitudes, improves knowledge, and/or increases skill as a result of attending the program. **3. Behavior**: examines the adoption of principles and techniques on the job, in order to know how well trainees apply their knowledge, skills, and abilities at work. **4. Results**: measure tangible individual or organizational outcomes such as turnover, accidents, sales revenue, or productivity. (Kirkpatrick, 1996).

Process Evaluation— Process evaluation takes into account the constraints within which a training program must operate. By definition, needs evaluation should take place before any training is designed and input evaluation refers to the periods where the training is being put together. Therefore, process evaluation takes place before training program occurs.

Outcome Evaluation— it provides information to say whether training objectives have been achieved and indicates the extent of the change during the training period. Ideally, individuals should be followed up in the workplace a month or two after training to assess the crucial issue of their transfer of training.

environmental favorability. Trainability = f(Ability, Motivation an Environmental Favorability)

Training Transfer— Transfer of training is defined as the extent to which trainees effectively apply the knowledge, skills, and attitudes gained in a training context back to the job" (Muchinsky, 1991, p. 197). Transfer of training may take place in three different ways: positive, which results in enhanced job performance; negative, which results in a deficit from previous job performance; or neutral, which has no effect on job performance. Other authors, such as Foxon (1993) suggest that transfer is better conceptualized as a process with various stages through which transfer can be tracked, rather than as a product approach. This process approach measures transfer at various points on the transfer time continuum: **Transfer intention** (at the end-of-course), **Transfer initiation** (the attempts to apply any aspect of the learning in the work environment), **Partial transfer** (sporadic and inconsistent applications on the job), **Transfer maintenance** (In the first stage of maintenance the learner makes a conscious choice to use the skills whenever their use is appropriate. When the utilization of the skills has progressed to unconscious use, the skills have been integrated into job behavior, and transfer has occurred in full).

Positive training transfer— The occurrence of such transfer is reliant on two conditions: *generalization*, which refers to the trainee's ability to apply learned capabilities to the job context, and *maintenance*, which refers to the process of continuing to use new KSA's over a relatively long period of time (Baldwin & Ford, 1988).

Transfer rate— index that measures the changes in behavior that are retained and applied to the workplace after a training intervention. Casio (1998) points out that the participants need a length of time to integrate successfully the new material into his/her work environment. Casio suggests to assess trainees after three months.

Training Evaluation— "literally, evaluation means the assessment of value or worth. Strictly speaking, the act of evaluating training (or anything else) is simply the act of judging whether or not it was worthwhile in terms of some criterion of value, in the light of the information available. However, in the training field, evaluation has traditionally been taken to include, not only the assessment of value, but also the collection and analysis of the information on the basis of which the assessment is made. This definition includes investigation before, and during training as well as after training" (Hamblin, 1974).

Formal Training evaluation— is the extent to which the training evaluation takes a mandatory character through the setting of institutional policies, norms and procedures to systematically collect and analyze relevant data regarding learning activities to be used with diverse objectives.

Training transfer factors— set of elements that support or hinder to the transfer of training from the learning environment to the working environment. Factors influencing transfer can be classified in two main categories, depending on whether they are related to the trainee or to the environment. Trainee-related factors can be divided into two sub-categories: motivation or ability-related. Environment related factors can be divided into two sub-categories: job or organization-related. Usually, those factors are referred to as conditions or training context factors.

Training return on investment (ROI)— financial term used by Jack Phillips to compare the program's monetary benefits with the training program costs. Although the ROI can be expressed in several ways, it is usually presented as a percent or cost benefit ratio. The ROI process represents the ultimate level of the evaluation.

Workplace climate to transfer— is the extent to which the organization offers to trainees a supportive environment, which facilitates the process of transfer from the classroom to the workplace

CHAPTER II

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

The purpose of this chapter is to integrate important concepts, theories, and research on *evaluation of training* and *training transfer* in order to support the research questions to be studied. First, the chapter examines the principles of evaluation and reviews the most relevant models of training evaluation found in the literature. Secondly, the chapter examines the theoretical foundation of transfer of training and its most relevant findings found by researchers in the field. Third, the chapter describes fully the training evaluation approach developed by DANAVEN. Finally, this section focuses on the operational path to reach the research questions and its theoretical foundation supporting the constructs been tested.

Theoretical Foundation of Evaluation

Like many emerging fields and disciplines, evaluation is troubled by conceptual and ideological discrepancy. Synthesizing from dictionaries and common usage, Scriven (1994) defines evaluation in the following term, "it is the process of determining the merit, worth, or value. Without such a process, there is no way to distinguish the worthwhile from the worthless. Reports on the results of this process are called evaluations" (cited in Torsten & Neville 1994, p. 43).

The process of disciplined evaluation permeates all areas of thought and practices. Scriven (1999) points out that the discipline of evaluation "is divided into fields according to the type of entity evaluated--for example, program evaluation, or personnel evaluation--and there are more than twenty of these recognized fields of evaluation."

(p.1). Scriven (1991) argues the importance of evaluation to those mentioned areas: in ethical terms "evaluation is a key tool in the service of justice..." social and business terms, "evaluation directs effort where it is most needed, and endorses the new and best way where it is better than the traditional way," intellectual terms, "it refines the tools of the thought..." and personal terms "it provides the only basis for justifiable self-esteem" (p.43).

Literature in this field identifies three types of theory in evaluation: *descriptive theory*, which describes how a specific type of evaluation is actually conducted, what is done, why, and with what effect; *prescriptive theory*, which specifies how a specific type of evaluation ought to be done; such theory can be based on a definition of social role, an ideological position, or a formal metatheory of evaluation; and *metatheory* (a theory about theories), which defines the purpose, boundaries, and nature of the evaluation enterprise itself.

While those theories, as well as several practical evaluation issues are still under discussion, the evaluation of training falls within this emerging field of education and Psychology.

Evaluation of the training

Typically, a systematic approach to training often includes four stages, as mentioned by Santos & Stuart (2003), "identifying needs, planning, delivery, and *evaluation*. The evaluation stage is arguably the most problematic part of the training process" (p. 28). Usually, evaluation training data typically can be used to: provide feedback on whether the training or development activity is effective in achieving its aims; indicate the extent to which trainees apply what they have learned back in the workplace (transfer of training); provide information on how to increase the effectiveness

of current or later training activities, and demonstrate the overall value and worth of those training activities developed.

Literature reports that organizations often pay scarce attention to evaluating training effectiveness. Santos & Stuart (2003), cited an illustrative case, "In 1989, for example, only 3 % of UK establishments undertook any cost-benefit analysis of their training" (Deloitte Haskins & Sells, 1989 in Santos & Stuart 2003, p. 28),

Likewise, the annual report conducted by the American Society for Training and Development identified that, "only 3% of all training courses in the United States are evaluated for business impact" (ASTD, 1999). More recently, a study conducted in Europe (UK, Finland, and Portugal) reports that 9% of their programs are evaluated in monetary terms (Mathews, B, et al, 2001).

The poor capacity of most organizations to measure the effectiveness of their training interventions has several explanations. According to Spitzer and Conway (2002), shortcomings for measuring training are related to "the lack of appropriate methods, and not focusing on measuring training before the training occurs, but after the fact. Lack of understanding about how to link training to business results" (p.1). Other study conducted by Twitchell et al, (2001), found that the top reasons offered by practitioners for not conducting evaluations were: no pressure from upper management to evaluate training outcomes; evaluation's costs; lack of training evaluations' methods, and lack of time to implement evaluations (cited by Kraiger, 2002, p. 339). Kraiger expands the previous list affirming, " Although generally not openly discussed, yet another reason for not conducting more rigorous evaluations is that the training function may have everything to lose and nothing to gain from the data" (Kraiger, 2002, p. 340). Twitchell et al, (2001) concluded that evaluation models may not be sufficiently clear or simple for

typical practitioners (cited by Kraiger, 2002, p. 339). Failure to evaluate training may affect the effectiveness of training programs.

Training Evaluation Models

Many contributions to evaluation of training, in both economics and HRD have been made from the literature of the 50s. Donovan & Hannigan (1999) state:

> Evaluation of training approaches have been positivist in nature, attempting to establish causation between the independent variable (training) and the dependent variable (some organizational good or outcome). However, because there are so many intervening variables between the training and the outcome, positivist approaches have limited diagnostic utility for the human resource practitioner... this requires movement beyond the positivist approach. (p. 08).

Certainly, many authors have attempted to develop diverse approaches to evaluation of training interventions using different philosophical starting points, from the most radical positive approaches (Kirkpatrick,1959) to the most phenomenological ones (Holton, 2004). The list of the contributors of the evaluation research field might be extensive. However, this study focuses on three known models of training evaluation, which introduced a new route of inquiry in their moment. These approaches are Kirkpatrick's four level model (1959), the CIRO's framework by Warr, Bird and Rackham (1970), and the CAIPO's framework developed by Easterby-Smith (1986).

Within the framework of Kirkpatrick model, the training results gathered from levels 1 and 2 are recognized as training departments' internal drivers. In contrast, level 3 and 4 are external drivers that provide information to business operations on the application of learned skills and on the impact on the business (Parry, 1997).

Kirpatrick's levels are organized in a sequential chain. Each training outcome affects the next level in the hierarchy. Kraiger clarifies this point, "the hierarchical nature of this approach indicates that higher levels should not be assessed unless satisfactory results are achieved at lower levels. That is, if trainees do not like course, there is little reason to measure learning; if trainees show no learning during training, changes in on-the job behavior are not likely" (p.333). The Table # 1: Kirkpatrick four level model, shows the level connections and tools used to measure those levels.

Table # 1: Kirkpatrick four level model

LEVEL	ISSUE	QUESTION ANSWERED	TOOL
1	Reaction	How well did trainees like the course?	Rating sheets
2	Learning	How much did they learn?	Test. simulations
3	Behavior	How well did they apply it at work?	Performance measures
4	Results	What return did the training investment yield?	Cost-benefit analysis

Source: Parry, Scott (1997)

Since, Kirkpatrick' model has been widely accepted in the field of industrial/organizational psychology (Cascio, 1987), the model has had supporters and opponents. For instance, Noe (1986) reminds some supports:

> A number of training evaluation studies have provided indirect support for the hierarchical model (e.g. Fromkin, Brandt, King, Sherwood, & Fisher, 1975; Latham, Wexley, & Purcell, 1975) by demonstrating that satisfaction with learning, and behavior change occurs jointly. The strongest evidence in support of the hierarchy is provided by Clement (1978). Using path analysis, he found that trainee reactions had a causal impact on learning and learning had a significant influence on behavior change. (p. 736).

In contrast, other authors have criticized Kirkpatrick model. For instance, Alliger and Janak (1989) conducted a study on the 4 levels model, which recognized that "the implied causal linkages between each level of the taxonomy had not been demonstrated by research" (cited in Holton III, 1996, p.6). Likewise, Donavan & Hannigan (1999) doing a retrospective analysis to Kirkpatrick model expose interesting cites and arguments, as follows:

> A review of the literature shows that reported correlations have varied widely. In response, Kirkpatrick (1994) asserted that there are linear relationships between the constructs of his model: "if training is going to be effective, then it is important that trainees react favorably" (p. 27) and "without learning, no change in behavior will occur" (p. 51). However, Dixon (1990) found that there is little correlation between reactions and learning. It has also been argued that reactions should not be regarded as a primary outcome but, rather, as a moderator of the relationship between training motivation and learning (Mathieu *et. al.*1992). This is in direct opposition to the four-level model where trainee reactions, defined as happiness, are a primary outcome of training (Donavan & Hannigan 1999, p. 10).

Another interesting reflection given by Donavan & Hannigan (1999), as cited next, is the especial attention for this study. The authors concluded:

> There are also serious questions to be answered, such as the absence of intervening variables that affect learning, such as, trainee readiness, motivation, training design and reinforcement of training on the job, which are not specified in the four-level model. In addition, individual differences may also affect outcomes and these are not specified in the model (p.10). Another failure of Kirkpatrick's model is its inability to take into account the important conditions that await the trainee in the workplace on his/her return from the training intervention. The 4 levels model cannot account for the reasons for choosing the intervention and the process of nomination of the trainee for that intervention. Has this process taken place in an atmosphere conducive to the development of the right attitudes on the part of the learner? Will the learner, on returning to the workplace, and be given the opportunities to test out the new knowledge in a supportive atmosphere? (p. 14)

Despite the strength of these criticisms and the absence of a solid defense from Kirkpatrick and others, the four level model is recognized as the most long-standing contribution to the field of evaluation of training. Perhaps because of its simplicity and ease of understanding, it has become the most widely known and accepted approach to the subject. Santos & Stuart (2003) talking about the Kirkpatrick's model stated, "this model has been highly influential" (p.2). In addition, a recent survey by the American Society for Training and Development (ASTD) recognized that this evaluation framework is commonly used among their Benchmarking Forum Companies (Bassi and

Cheney, 1997 in Santos & Stuart 2003, p. 2). Moreover, other authors have expanded the Kirkpatrick's four level model. From these have come suggestions for modifications such as adding a fifth level to accommodate training's ultimate value, in term of organization success criteria (Hamblin, 1974), societal value (Kaufman and Keller, 1994), and Return on Investment –ROI- (Phillis,1997). Perhaps, the most general accepted significant contribution of Kirkpatrick has been to give a language and a framework for discussing evaluation within a particular taxonomy (Holton,1996). Finally, paraphrasing Nickols (2000), "Although Kirkpatrick's framework might not be the last or latest word in the evaluation training, it certainly comes close to being the first word on the subject" (p. 14, cited in Donavan & Hannigan (1999).

Warr, Bird, & Rackham's Model

The acronym CIRO suggested by Warr, Bird, & Rackham, (1970), stands for evaluation of context, input, reaction and outcome. Santos & Stuart (2003) conceptualized each level of this evaluation framework, as follows:

> *Context evaluation* focuses on factors such as the correct identification of training needs and the setting of objectives in relation to organization culture and climate. *Input evaluation* is concerned with the design and delivery of the training activity. *Reaction evaluation* looks at gaining and using information about the quality of trainees' experiences.
>
> *Outcome evaluation* focuses on the achievements gained from the activity and is assessed at three levels: *immediate evaluation* attempts to measure changes in knowledge, skills or attitude before a trainee returns to the job; *intermediate evaluation* refers to the impact of training on job performance and how learning is transferred back into the workplace; and finally, *ultimate evaluation* attempts

to assess the impact of training on departmental or organizational performance in terms of overall results (p.2).

The merit of this approach was to be the pioneer in introducing some factors to be evaluated before training occurs.

Easterby-Smith's model

In 1986 Easterby-Smith developed an alternative framework that included the following elements: context, administration, inputs, process and outcomes. Those elements represent the acronym CAIPO, which is clearly explained by Santos & Stuart (2003) in the following terms:

> *Context evaluation* focuses on factors outside and beyond the training program: for example, the level of support for learners at the workplace. *Administration evaluation* is concerned with the mechanisms of nomination, selection and briefing before any training starts, and any follow-up activities eg debriefing by the line manager or post-course evaluation. *Inputs Evaluation* examines the content and methods of training. *Process evaluations* focuses on what actually happens during a training activity and how the participants experience it. Finally, *outcome evaluation* is concerned with establishing the outputs or outcomes of employee's training and development. The focus may be focused on individuals and changes in their knowledge, skills, attitudes and behavior, individual and/or organization performance or on shifts in organization culture and climate. Methods used in applying the CAIPO framework, may be similar to those used in other systems. However, this model provides a series of choices for evaluation, since the areas

considered are more independent and are not linked by cause-effect relations (p.3).

It seems that the central difference among these approaches is related to the way of understanding how the evaluation process occurs. In Santos & Stuart's (2003) terms:

> Tycally, the evaluation process is organized in a sequential, linear manner. Thus, higher-level outcomes can only be understood if evaluation has taken place at all lower levels. Hamblin (1974), for example, argues that the impact of training is linked by a cause-and-effect chain, whereby training leads to reactions, which leads to learning, which leads to changes in job behavior, which leads to changes in the organization, changes in the achievement of ultimate goals. Kirkpatrick (1994) and Warr et al (1970) recognize, however, that the cause-effect chain is often difficult to demonstrate, especially regarding to ultimate level evaluations (p.2).

By contrast, the Easterby-Smith's approach is more independent and it is not linked by cause-effect relations.

Table # 2 offers a comparative summary, which describes the three models cited earlier.

Table # 2 : Comparison of Training Evaluation Models

Models / Items	Four Level Model	CIRO	CAIPO
Authors	Donald Kirkpatrick	Warr, P., Bird, M., Rackham , N.	Easterby-Smith
Period	1959	1970	1986
Evaluation **Levels**		Context: Identification of training needs Setting of objectives	Context: Level of support for learners at the workplace
			Administration: Mechanisms of nomination Follow-up pre-activities. E.g. defriefing by liner manager, design of post evaluations
		Input: • Instructional design • Delivery of activities	Input evaluation: • Program Content • Training methods
	Level 1: Reaction: Looks at trainees' reactions to the program content and training process.	Reaction: Looks at gaining and using information about the quality of trainees' experiences.	Process evaluation: Looks at what happens during a training activity and how the participants experience
	Level 2:Learning: measures the degree to which the trainee changes attitudes, improves knowledge, and/or increases skill as a result of attending the program	Outcomes: a) Immediate evaluation: measures changes of KSA's before a trainee returns to the job	Outcomes: Focuses on individuals and changes in their KSA's and behavior, as well as individual and/or
	Level 3: Behavior examines the adoption of principles and techniques on the job and how much transfer of KSA's occurs	b) Intermediate evaluation Impact of training on the job and how learning is transferred back to the job	Performance or on shifts in organization culture and climate.
	Level 4: Results: measure tangible individual or organizational outcomes such as turnover, accidents, sales revenue, or productivity.	c) Ultimate evaluation Impact of training on departmental or organizational performance.	
Premises	Cause-effect chain: Each level is considered to be linked by cause-effect relations.	Cause-effect chain: the areas considered are linked by cause-effect relations (sequential, linear)	Non sequential: the areas considered are independent and are not linked by cause-effect relations
Typical Methods	Surveys, questionnaires, interviews, pre-post tests, focus groups, action plans, and performance records.	Surveys, questionnaires, interviews, pre-post tests, focus groups, action plans, and performance records.	Surveys, questionnaires, interviews, pre-post tests, focus groups, action plans, and performance records.

Source: Nerza Rev (2004)

An analysis to of the previous comparison table suggests two main advances along the research continuum: first, the inclusion of further factors to analyze the pre-program phase, which are omitted in the Kirkpatrick's model. Second the change of the premise to evaluate training from a lineal view (cause-effect chain) to a circular view (non-sequential).

The literature reports an interesting tendency to follow those non-sequential models such as the Easterby-Smith's framework. Researchers such as Noe (1986), Ford, Quinones, Sego, & Sorra (1992), Lewis(1996), Mathieeu, Tannenbaum, & Salas (1991), Rouillier & Goldstein (1993), Tziner & Haccoun (2002), Dixon (1990), Tracey, (2001), and Holton (1996), have studied numerous factors affecting the transfer of training. For instance, Holton (1996) recognizes, "A variety of influences on transfer motivation have been suggested (Balwin and Ford, 1998; Broad and Newstrom, 1992) and fall into four categories: intervention fulfillment, learning outcomes, job attitudes, and expected utility of results-or ROI-of results" (p.13). Those researchers look for holistic and participative approaches, which consider the dynamic nature of training and the complex interactions that take place among trainees, trainers and supervisors. Talking about the Holton's model, Donavan & Hannigan (1999) recognizes that, "The model is also holistic in its approach and moves the debate away from a concentration on causation and outcomes, to a discussion about how training works and how the factors that make it work, can be enhanced in the organization"(p.14). The Holton's transfer climate evaluation model (1996) and its learning transfer system inventory (LTSI, Holton & Bates, 1996) might be an alternative approach to enhance the training effectiveness through the development of practical evaluations tools that were grounded in theory. Holton (1996) proposed that training outcomes are a function of ability, motivation and environmental influences at

three primary levels: learning, individual performance, and organizational performance. At secondary level, Holton recognizes other influences influencing upon motivation.

Phillips ROI model

Another model that has gained popularity among managers and practitioners is the Phillips ROI model. Phillips demonstrates how to place monetary values on training worth and calculate the return on investment of a training intervention. This linear approach is really an extension of Kirkpatrick's four level model; therefore, it is positivist in nature. The strengths of the model include the way it attempts to isolate the effects of the program from other influences.

Table #3: Jack Phillips Evaluation Levels

Level		Measurement Focus
Reaction & Planned Action	⇨	Measures participant satisfaction & planned actions
Learning	⇨	Measures changes in knowledge, skills, and attitudes.
Job Applications (transfer)	⇨	Measures changes in on-the job behavior
Business Results	⇨	Measure changes in business impact variables
Return on Investment	⇨	Compares program benefits to the costs.

Source: Phillips, J. (1997)

Finally, literature reports extensive investigation conducted by several authors in search of approaches to supersede the four levels model; however, much research is still needed to find a model that satisfies the complex context of training arena.

Theoretical Foundation of Training Transfer

In order to understand training transfer, it is required to grasp deeply, those theories that can explain the next intricate questions: 1) why people desire to change their performance after attending a training program, 2) what training design contributes to people's ability to transfer skills successfully, and 3) what kind of organizational environment supports people as they apply the knowledge, skills, and attitudes gained in a training program to their job (Holton, 1996; Yamnill & McLean, 2001). The first question is related to motivational theories. The second question is related to learning theories; however, that question is not the object of this study. The third question is rooted with organizational theories. These approaches are intrinsically linked with trainability.

Trainability and Motivational Theories

Trainability is hypothesized as a function of three factors: ability, motivation, and perceptions of the work environment. [Trainability= f(Ability, Motivation, Work Environment Perceptions)] (Noe,1986,p. 737)

The motivation is composed of three aspects: energy, direction, and maintenance (Steer and Porter,1975, cited in Noe, 1986).

> In a training situation, motivation is the force that influences enthusiasm about the program, (energizer); a stimulus that directs participants to learn and attempt to master the content of the program (director); and a force that influences the use of newly acquired knowledge and skills even in the presence of criticism and lack of reinforcement for use of the training content (maintenance) (Noe, 1986, p. 737).

Several theories of human behavior help us to understand and predict behaviors that contribute to performance at work, as well as to clarify the motivation of transfer as a concept. They include the theories of expectancy, equity, and goal setting.

Expectancy Theory

This theory "deals with the direction aspect of motivation, that is, once behavior is energized, what behavioral alternatives are individuals likely to pursue" (Scholl, 2002). Vroom (1964) defined expectancy as "a momentary belief concerning the likelihood that a particular act will precede a particular outcome." (p. 17). Yamnill & McLean's (2001) work offer a clear explanation:

> His formulation suggested that job performance (P) is the result of the interaction of two components, force (F) and ability (A), with ability representing the potential for performing some task. The force to perform an act is the algebraic sum of the products of the valences of all outcomes (E) and the valence or rewards of those outcomes (V). In equation form, the theory reads: P _f(F _ A) (cited in Yamnill & McLean, 2001, p. 196).

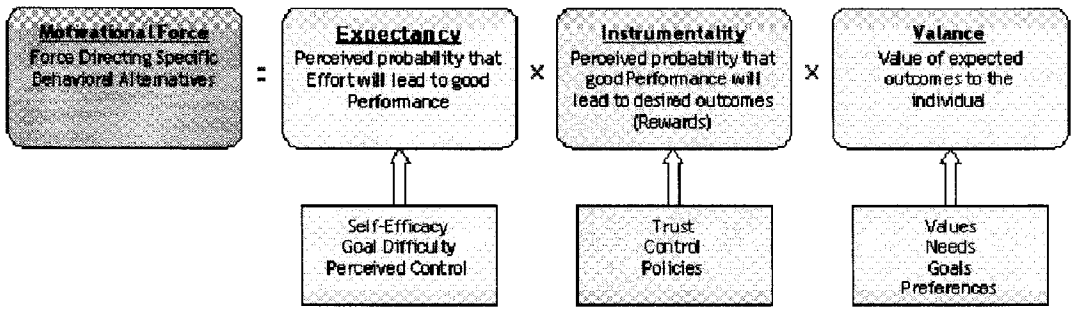
This model has been refined and extended. For instance, Noe (1986) affirms that one of the first models of management performance was developed by Porter-Lawler (1968). As an extension of Vroom's work, this model included abilities, traits, and role perceptions. Following Yamnill & McLean's (2001) explanation, they say:

> At the beginning of the motivation cycle, effort is a function of the value of the potential reward for the employee (its valence) and the perceived effort-reward probability (expectancy). Effort then combines with abilities, traits, and role perceptions to determine performance. Performance results in two kinds of rewards. Intrinsic rewards are intangible—a feeling of accomplishment, a sense of

achievement, and so forth. Extrinsic rewards are tangible outcomes, such as pay or promotion. (p. 197)

In order to provide a general picture about the expectancy theory, figure # 2, shows the expectancy theory equation and the drivers behind them.

Figure # 2: Motivational Processes - Expectancy Theory



Source: Richard W. Scholl, Professor of Management, University of Rhode Island Revised: October 12, 2002

Equity Theory

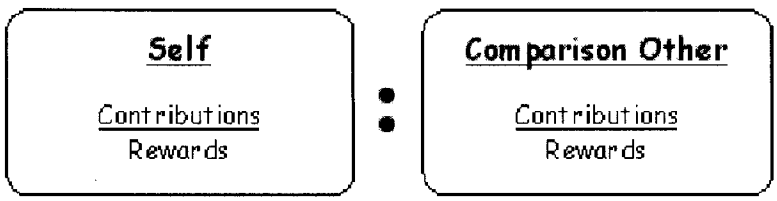
Equity theory is based on the simple premise that people want to be treated fairly (Adams, 1963). The theory defines equity as the belief that employees are being treated fairly in relation to others and inequity as the belief that employees are being treated unfairly in relation to others. An article written by Scholl (2000), explains:

> **Equity** (or inequity) is a psychological state residing within an individual. It creates a feeling of *dissonance* that the individual attempts to resolve in some

manner. Equity is a **social comparison process**, resulting when individuals compare their pay to the pay of others. There is no *"rational"* or single *"equitable pay rate"* for any given job or individual. Equity is a subjective evaluation, not an objective one. Based on the comparison that individuals use, each individual is likely to develop different perceptions of equity. Individuals determine equity by comparing their contributions (job inputs) and their rewards (job outcomes) to those of their comparisons. (p.1)

This comparison takes the form of the following ratio. See figure # 3

Figure # 3: Equity Theory Formula



Source: Richard W. Scholl, Professor of Management, University of Rhode Island
Revised: October 12, 2002

When this ratio is in balance, the individual perceives equity. Inequity is experienced when the ratio is out of balance. Thus when the individual perceives that his or her contribution are equal to the comparison and his or her rewards are lower, or his or her contributions are greater and rewards are equal, inequity is felt. (Scholl, 2000, p. 2).

Goal-Setting Theory

Ed Locke and Gary Latham developed the namely "Goal-Setting Theory" in 1968. According to this theory, a goal is that level of performance the individual is tries to accomplish; it is the object or aim of his behavior. Thus, goals direct his attention and action. In addition, they mobilize effort in proportion to perceived requirements of the goal or task (Locke, Shaw, Saari, and Latham, 1981, cited in Yamnill & McLean's (2001). The central premise is that a goal serves as a motivator, because it allows people to compare their current performance with that required to achieve the goal. If people miss the goal, they feel dissatisfied and strive to improve their performance, so as to intending it. According to the authors, goals influence performance in four ways. 1) The goal focuses the attention and effort of the worker toward actions specific to that goal. 2) The goals tend to increase the effort of the worker. Higher goals will initiate a larger magnitude of effort than lower goals. 3) Persistence of goal attainment will increase when the participant is in control of time dedicated toward achieving the goal. 4) The use of task-relevant knowledge are affected through the goals introduced, which lead to an effect on performance.(Locke & Latham, 2002). Yamnill & McLean's (2001) work offer details about this theory:

> Goal-setting theory suggests two cognitive determinants of behavior: intentions and values. Intentions are viewed as the immediate precursors of human action. The second cognitive process manifests itself in the choice or acceptance of intentions and subsequent commitment to those goals (Locke, 1968). It is the recognition that instructions will affect behavior only if they are consciously accepted that makes goal setting a cognitive theory of motivation. (Locke,Shaw, Saari, and Latham, 1981). (p. 198)

In brief, the expectancy theory, equity theory, and goal setting theory offer explanations to researchers so that they can understand diverse issues of training transfer, from the transfer of training concept, the factors affecting transfer, until the strategies to raise higher transfer rates.

Transfer of Training

A review of transfer research done by Baldwin and Ford (1988), suggests that, investigators have been studying transfer since 1901; however, its activity has been more remarkable from the 1970s into the present (Ford & Weissbein, 1997). In spite of the recent researches efforts, the concept of transfer of training is still in discussion. Transfer of training has been defined as the "extent to which trainees apply the knowledge, skills, and attitudes gained in the training context of the job" (Wexley and Latham as cited in Elangovan and Karakowsky 1999, 268). This traditional view of training transfer only considers the process of transfer of learning effectively, but it pays no attention to the post-training environment. Other definition most popular was stated by Baldwin and Ford (1988). Baldwin and Ford's definition include other elements, they define transfer of training as, "the generalization of the skills acquired during the training phase to the work environment and the maintenance of these acquired skills over time" (Elangovan and Karakowsky, 1999, p. 268). It is important to highlight that this definition not only emphasizes continued training transfer in the post-training environment, but it also highlights the important concepts of 'generalization' and 'maintenance' of training. Generalization of training refers to the trainee's ability to apply learned capabilities to work situation that are similar but not identical to those emphasized in the instructional environment. Maintenance refers to the process of continuing to use new skill s over time; even when the opportunities to practice are limited and work constraints (such as

time pressures, stress, or lack of management support) exist (Noe & Coquitt, in Kraiger, 2002, p.57). Incorporating some differences, as cited by Swartz,(2002), "Laker (1990) expands upon Baldwin and Ford's conceptualization of training transfer by asserting two general dimensions of transfer, *time* and *distance*, where time gauges the initiation and maintenance facets of transfer and distance gauge how different the context in which the trained skill is applied from the training context" (p. 7).

Regarding the lack of consensus about what transfer of training means, Swartz (2002) concludes:

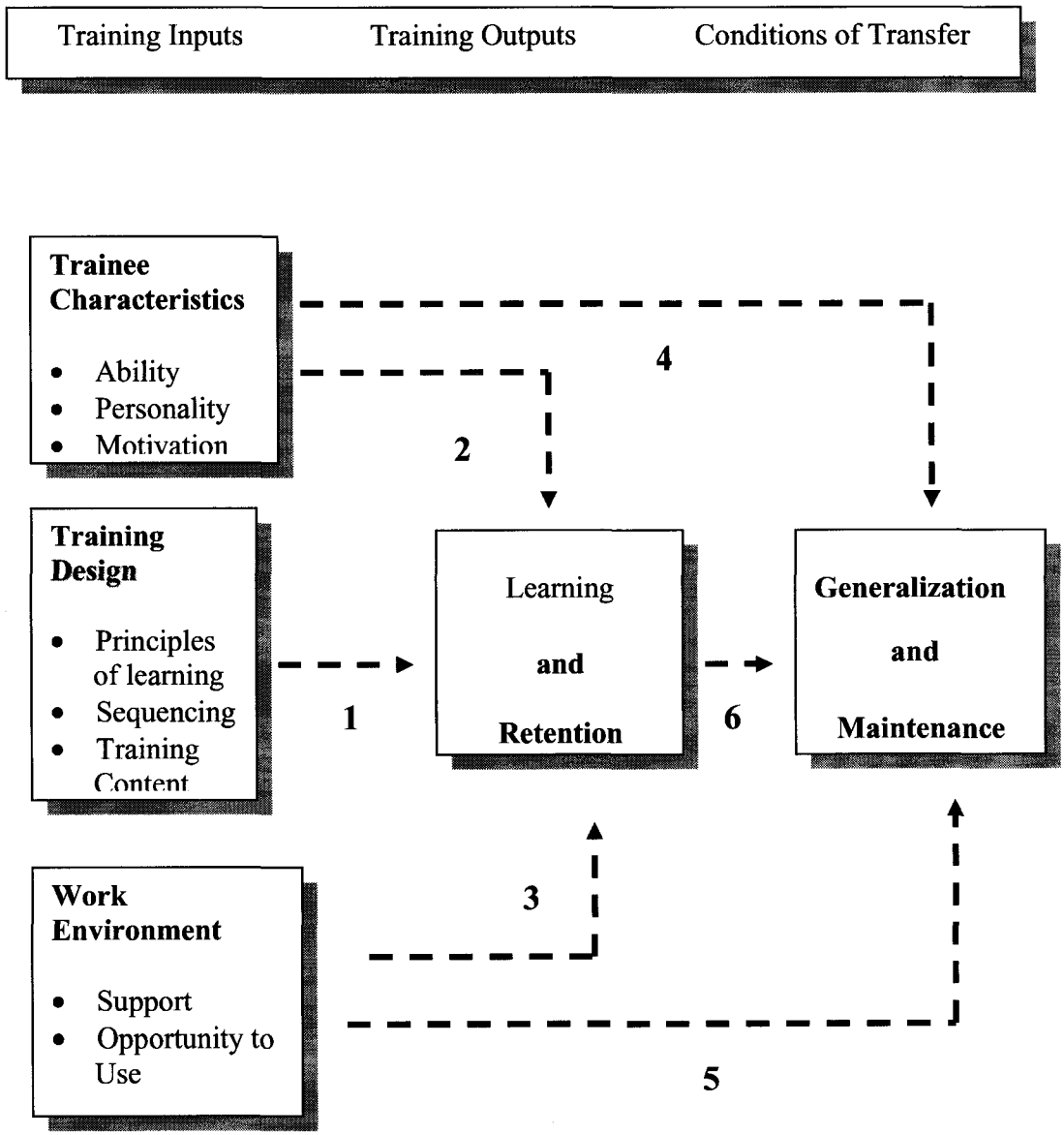
> Research in the area of training transfer has been hampered by the conceptual lack of clarity as to what constitutes transfer. This imprecision has restricted not only research in the area, but also the extent to which relevant findings can be applied to organizational environments. It is difficult to uncover reliable relationships among individual, organizational, and contextual variables and training transfer when the latter variable is measured inconsistently. This problem is exacerbated by the fact that common measurements of transfer may be too broad to adequately uncover interesting relationships among the variables in question (p.8).

Training Transfer Factors

There are many factors that can facilitate or hinder training transfer rate. For decades, most training researchers and practitioners have cited three fundamental factors for transfer of training to occur: 1) training design: training must be designed well so that trainees learn the content; 2) relevance and reinforcement: the new knowledge, skills, and attitudes must be relevant to the job and positively reinforced; and 3) trainees must be motivated to apply the content to their jobs (Byham, Adams, & Kiggins, 1976; Mosel, 1957; Noe, 1999).

Baldwin & Ford, (1998) break apart the training context into three types of factors namely *trainee characteristics* (ability, personality, and motivation); *training design* (principles of learning, sequencing, and training content); *work environment* (support and opportunity to use). The Baldwin and Ford's (1988) training transfer model is showed in the figure # 4.

Figure # 4: Baldwin & Ford's Model of the Transfer Process



Source: Baldwin, T.T., & Ford, J. K. (1988). Transfer of Training: A Review and Directions for Future Research. Personnel Psychology, 4, (1), 65.

The theoretical Baldwin and Ford's models examines the impact of different training input variables such as trainee characteristics, training design variables, and work environment factors on the transfer process (Baldwin & Ford, 1988). The importance of this model is its wisdom to understand that, "the successful transfer of training to the workplace is not solely determined by any one factor (such as performance on the training program). The employee's level of motivation and ability to understand and benefit from their training are important determinants of the individual's learning outcomes. There are also organizational and contextual factors that are necessary requirements for the effective transfer of training" (Machin, 2002, in Kraiger, 2002, p. 265).

A review of the training transfer literature remarks that, some factors have been studied more than others. Milner (2002) states, "Research on the instructional design and work environment has flourished while research on the effects of individual motivation on transfer has lagged" (p. 16). In addition, recent researchers such as Elangovan & Karakowsky (1999), and Tracey, Hinkin, Tannenbaum, & Mathieu (2001), have shown that "transfer effectiveness is more firmly rooted in trainee factors (motivation and ability) and environmental factors (job-related and organization-related) than in design or learning factors (instructional methods)" (Hoekstra, 2003, p. 29). Some contributions are mentioned next.

1) Tziner and Haccoun (1991) found an interaction effect between personality of the trainee and the transfer of the training. Using Rotter's (1966) locus of control theory as a personality variable, the researchers found a trainee's locus of control to have a significant impact on training transfer. Subjects with high internal locus of

control exhibited a greater degree of training transfer than those with a more external locus of control.

2) Baldwin & Magjuka (1991) demonstrated the impact of trainees' choice of training on motivation and learning. It was found that participants who received their choice had a higher level of motivation to learn prior to entering the training than those who were not provided with a choice or those who made a choice they did not receive.

3) Hicks & Klimoski (1987) found that those trainees who perceived they had a high degree of freedom to attend training reported higher achievement scores than those who perceived they had little freedom in their choice to attend.

4) Research has found that variables outside the training context, such as trainee's self –efficacy (Quiñones, 1995) and appropriate pre-training motivation (e.g., Mathieu, Tannenbaum, & Salas, 1992) may influence training preparation, performance, and transfer.

5) Wexley and Baldwin (1986) found that, trainees demonstrated greater maintenance of their new KSA's when they obtained assigned or participative set goals than trainees without goal-setting.

Research suggests that transfer and motivation are mutually supportive in creating an optimal learning environment. If the learner perceives that what he is learning is relevant and transferable to other situations, he will find learning meaningful, and his motivation to acquire the skill or knowledge will increase. Similarly, for transfer to take place, the learner must be motivated to do two things. First, he must be able to recognize opportunities for transfer (Prawat, 1989); second, he needs to possess the motivation to take advantage of these opportunities (Pea, 1988).

Another branch of training transfer research that has been particularly insightful is the workplace climate and the connection of a positive workplace climate to training effectiveness (Hoekstra, Erik, 2003). Some contributions to this line of inquiry are:

1) Holton, Bates, Seyler & Carvalho (1997) studied workplace transfer climate and found that supervisor support, resistance to change and opportunity to use new skills, and perceived personal outcomes all impacted the transferability of newly trained skills.
2) Mathieu, Tannenbaum, & Salas (1992) found that perceptions about situational constraints in the workplace had a negative effect on pre-training motivation, which in turn influenced training effectiveness.
3) Kozlowski and Salas (1997) assert that the transfer processes involved the pre-training environment as well. If a context does not support or actively discourages the use of new skills prior to the implementation of training, it is unlikely that trainees will be motivated to learn.
4) Burke and Baldwin, (1999) stated that whether the transfer climate is seen as supportive or unsupportive depends on "trainee's perceptions about a wide variety of characteristics of the work environment that facilitate or inhibit use of the trained skills or behaviors" (Noe 2002, 160).

In general, studies have demonstrated that organizational support is a vital condition to transfer training from classroom to the job, as well as that trainees who work in a supportive work environment exhibit greater transfer rate than trainees working in a workplace lacking support. These authors (e.g. Rouiller & Goldsteim, 1993; Tannenbaum & Yukl, 1992, Holton, Bates, Seyler & Carvalho,1997; Kirkpatrick,1998, Baldwin & Ford,

1998) affirm that unless a trainee's work environment or organization supports the use of trained skills on the job training transfer is unlikely to occur despite the best efforts of training designers to develop and deliver a high-impact training program.

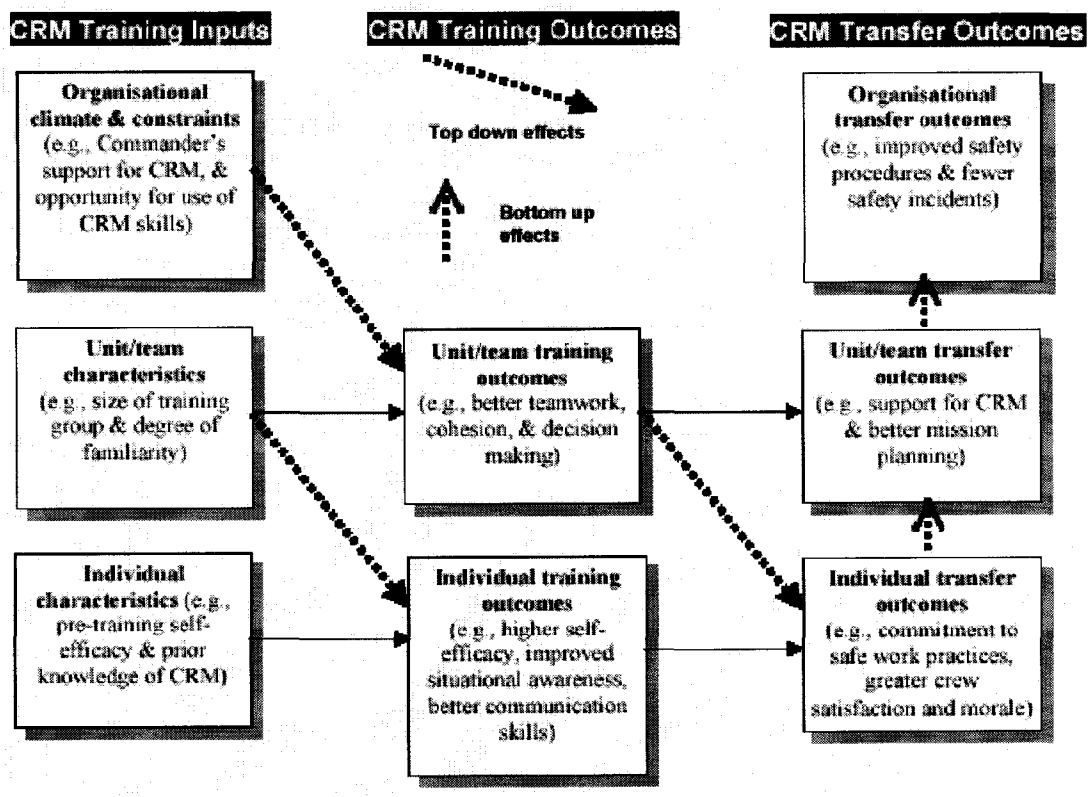
In summary, these factors influencing transfer can be classified in two main categories, depending on whether they are related to the trainee or to the environment. Trainee-related factors can be divided into two sub-categories: motivation or ability-related factors. Motivation-related factors can be the perceived relevance of training, the choice in attending training, outcome expectancies, self-efficacy, job involvement, job motivation and perceived control. Ability-related factors are knowledge acquisition, situation identification or foundational knowledge or experience. Environment related factors can be divided into two sub-categories: job-related or organization-related factors. A job-related factor can be the job requirements, timing of the opportunity, norms and group pressure, contextual similarity, supervisory support and interference from the job. Organizational-related factors can be a reward system as a means of positive reinforcement or the organizational culture and climate. In terms of Kirkpatrick (1998) for training to be transferred to the workplace, four factors are necessary: the employee must have a desire to change (motivation); the employee must know what to do and how to do it (ability); the employee must work in the right climate (environmental workplace); and the employee must be rewarded for changing (reinforcement). The first two factors are related to the person (intrinsic), while the last two factors are related to the organization (extrinsic).

Training Transfer Strategies

Numerous authors have addressed the problem of how to optimize the transfer of training. For instance, Machin (2002) focuses on specific strategies for improving transfer of training taken from several important theoretical models of the training transfer. As a result, Machin (2002) outlined an integrated model of the transfer process examining strategies that can be applied before, during, and after training at the individual, unit/team, and organizational levels.

(see Figure # 5 " An Integrated Multilevel of Transfer of Training Approach")

FIGURE # 5: An Integrated Multi-level of Transfer of Training Approach



Source: Machin, 2002

The importance of the above model was the outstanding effort for incorporating a complete map of variables affecting training transfer. In doing so, Machin (2002) borrowed several training transfer frameworks, such as:

1) Broad and Newstrom (1992), who outlined a series of strategies for managing the transfer of training focused on three time periods (before, during, and after training) and on the responsibilities of three separate organizational roles (the role of the manager, the role of the trainer, and the role of the trainee).

2) Milheim's (1994) model for the transfer of training, which included pre-training strategies, strategies for use during training, and post-training strategies.

3) Baldwin & Ford's (1988) model, which examined the impact of different training input variables such as trainee characteristics, training design variables, and work environment factors on the transfer process, as shown in Fig. # 4.

4) Kozlowski and Salas (1997) proposed a three-level model incorporating the individual level, the team or unit level, and the organizational level.

5) Thayer and Teachout's (1995) focused on several aspects of the training process that affect transfer outcomes. In particular, the climate for transfer of training, and the transfer-enhancing activities that occurred during training program as important determinants of transfer. This model also included individually oriented variables such as trainee ability, trainee self-efficacy, previous knowledge and skill, reactions to training, and the level of understanding. Locus of control, job involvement, and career attitudes were also included as possible influences on the learning process.

6) Holton's (1996) model included three primary outcomes of training (individual learning, individual performance, and organizational results) that are influenced by a combination of motivational, environmental, and enabling factors. In this model, the

outcome of individual learning is influenced by the trainee's motivation to learn, the trainee's reaction to the training climate, and the trainee's experience and ability. The outcome of individual performance (after training) is influenced by the trainee's motivation for transfer, the transfer climate, and the design of the training program. Finally, the organizational results achieved are determined by the expected utility of training, the external events that constrain or amplify productivity, and the linkage between training and the strategic objectives of the organization. (Machin 2002, in Kraiger, Kurt. Editor, 2002; p. 263).

The interesting result of the Machin's (2002) work was to summarize a set of strategies to enhance transfer, which can be applied before, during, and after training at the individual, unit/team, and organizational levels. (See Table # 4: Training Transfer Strategies)

Table # 4: Training Transfer Strategies

Pre-training Goals & Strategies	Within-training Goals & Strategies	Post-training Goals & Strategies
Goals: 1. Improve trainees' motivation to learn, 2. Improve trainees' pre-training selfefficacy knowledge, and 3. Demonstrate organizational support for training. Strategies: 1. Use of goal setting, 2. Allow trainees to participate in decisionmaking, 3. Provide information concerning the purpose and intended outcomes of training, 4. Reduce any perceived threat to the trainee, 5. Help the trainee to develop better learning strategies, 6. Develop a plan for how the trainee will utilise their training, 7. Identify external factors that may restrict the trainee's ability to utilise their training, and 8. Assist the trainee to identify organisationally valuable outcomes from training.	Goals: 1. Improve trainees' understanding and adaptive expertise, 2. Improve trainees' intentions to transfer, and 3. Improve trainees' reactions to training. Strategies: 1. Use procedures in training are similar to those used in the work place, 2. Use real-life problems that the trainee is familiar with, 3. Provide different examples during training and highlight the important features of each example, 4. Assist trainees to develop detailed, wellintegrated knowledge structures, and selfregulatory skills such as planning, monitoring, and evaluation, 5. Set short-term goals for the immediate transfer of their training, 6. Set longer-term goals that focus on the mastery of the training, 7. Assist trainees to develop and commit to specific implementation plans, 8. Use Relapse Prevention as a tool to identify specific situations where they may be at risk of failing to utilise their training, and 9. Create a positive training climate.	Goals: 1. Improve the climate for the transfer of training, and 2. Improve the vertical transfer of training. Strategies: 1. Provide trainees with specific goals for improved performance resulting from transfer of training, 2. Ensure supervisors and co-workers are supportive of the trainees' attempts to transfer their training, 3. Ensure trainees have access to equipment or resources that are essential to the transfer of their training, 4. Positively reinforce better performance, 5. Reduce barriers such as lack of time or opportunity to perform the tasks trainees learned during their training, 6. Train all members of a work unit at the same time, 7. Monitor post-training performance, and 8. Align training with organisational goals and directions.

Source: Machin, 2000

DANAVEN's Training Evaluation System

Background

DANAVEN developed a formal evaluation system to link training to the organizational results. The system has been methodically applied since 1999. The basic purpose of this evaluation system is to verify and to improve the effectiveness of training; therefore, data gathered from the evaluations is used to improve not only course content, instructor performance, and an overall support of training activities but also, to ensure that trainees successfully apply knowledge, skills, and attitudes gained in courses on to their jobs. DANAVEN also believes that training is a success if it accomplishes five objectives: participants are prepared to enter and participate in the program (readiness), participants like the program; participants gain knowledge and skills that they need to have acquire; participants apply what they learned into their jobs; and participants are commitment in achieving the organizational mission, vision, and objectives.

Regarding DANAVEN's training system administration, the corporation manages it through an outsourcing firm. This firm is responsible for delivering and following evaluation instruments, as well as its results' interpretation. Another important responsibility of this team is to keep an updated database by using tailored software, which allows DANAVEN to know the effectiveness of training investment month by month. For better implementation, DANAVEN provides users with a complete guide that includes process specifications and examples that will help them to understand, develop, collect, and analyze, various types of evaluation data they can report at all levels.

DANAVEN Evaluation Design

The evaluation design of DANAVEN includes ways and means for measuring the effectiveness of the training. DANAVEN tailored its unique training evaluation system adapted to its organizational needs. The company took as a reference three main models, the four levels of Kirkpatric's model (1959, 1967, 1977, 1998), the return on investment in training of J. Phillips (1997), and Easterby-Smith's approach (1986). The levels of evaluation from which DANAVEN evaluates the training programs are described next and illustrated in the following table # 5 "DANAVEN's training evaluation system".

Table # 5: DANAVEN's Evaluation Training System

Evaluation Level	Kirkpatrick, & Phillips Definition	DANAVEN definition	Data Collection Method	DANAVEN Indicators
Level 0		Pre-checking validity	Standard questionnaire	
Level 1	Reaction	Satisfaction	Survey	Satisfaction and Potential applicability (SPAI)
Level 2	Learning	Learning	Tests	Learning Indicator (LI)
Level 3	Behavior	Job application	Check lists Learning contracts	Rate of transfer
Level 4	Results ROI	Business impact	Costs - Benefits	Return on Training Investment (ROTI)

Source: Nerza Rey (2004)

Level 0: Pre-Checking Validity

The most appropriate time to impact cost and quality is prior to completing the course. Also, prior data is necessary to determine the return on training investment. For that reason DANAVEN developed an instrument entitled *Pre-Checking Validity*. The objective of this instrument is, to identify if the key training context factors should ensure training effectiveness and, consequently, business results, rather than explain causes of ineffective training. Key questions are asked to both, potential trainees and their respective managers. The instrument includes the following structure:
Trainee Information, Training Event information, Training Needs, Expectations and Outcomes, Supervisor Opinion, Employee Opinion, and Approvals. Employees will attend training activities only if the participation request is supported by required approval levels (see appendix A).

Level 1: Satisfaction

DANAVEN has developed a standardized survey to capture data across all of its courseware. The instrument named *Evaluation of Satisfaction and Potential applicability (SPAI)* allows evaluators to assess the participants' perceptions regarding three important aspects:

I) Achievement of objectives and potential applicability (70%)

II) Academic and logistic issues (20%)

III) Overall evaluation. (10%)

Survey is applied at the end of the training intervention. This generates a numerical index called *Satisfaction and Potential Applicability Indicator (SPAI).* This information is used by supervisors to make agreements with trainees regarding their commitment to transfer new knowledge, abilities and skills (KSA's) on the job. Also,

information is used by the HR department to improve academic and logistic issues (see appendix B).

Level 2: Learning

Evaluations at level 2 allow assessment of the level of knowledge gained after training. Level 2 is conducted with low frequency. Basically, it is applied to specific technical skills training courses where participants should be certified on a piece of equipment or as part of the instructional strategy. The instructional designers ensure that the assessment matches the instructional objectives. The individual tests results, generate a specific score between 1 to 20 points.

Level 3: Job Application

Evaluations at level 3 are conducted to provide evidence that trainees apply the new KSA's acquired in courses to their the jobs. At DANAVEN level 3 is considered very important, since one of the best ways to raise training effectiveness is through increasing the rate of training transfer. Then, the goal is to make each trainee able to add value into the workplace through transferring new KSA's on to their job. In order to ensure the rate of training transfer, DANAVEN applies one of two types of instruments: pre-post check lists and learning contracts. The method used by DANAVEN to determine the transfer rate is explained later in a section entitled " Danaven's method to determine the transfer rate"

Level 4: Business Impact

When the results of level 3 generate intangible benefits such as employee satisfaction, teamwork, fewer conflicts, improved image in the company, and so forth, they are reported as a statement and measured in percents. When those results are

tangible such as saving costs, time, increase productivity, reduce absenteeism, turnover, and so forth, the *Return on Training Investment (ROTI)* formula is applied. Evaluators are able to determine a list of gained benefits, as well as the variables being impacted. The cost-benefit relation is expressed in dollars. Calculations of level four are filled in the last part of the both, verification lists and learning contract formats.

DANAVEN's Method to Determine the Transfer Rate

The method used by DANAVEN to determine the transfer rate requires completing some evaluation instruments, such as pre-post check lists and learning contracts. These two instruments allow supervisors to compare learning objectives or intended results, as they were specifically planned in the program, against the trainee's performance achieved within a certain time frame. When a pre-post check list is chosen, the supervisor evaluates, on a numerical scale, the entering trainee profile before the program. Then, the supervisor repeats the same evaluation after 30, 60, and/or 90 days as needed. The difference between both scores obtained, pre vs. post, generates a numerical rate of transfer. Pre-Post Check Lists require a specific design for each program, and also it is used only for technical courses (see appendix C).

When contract learning is chosen, an action plan is stated clearly after the employee has been trained. Supervisors and trainees bargain a set of goals to be completed within a certain time frame. These goals are evaluated after 30, 60, and/or 90 days respectively (see appendix D). It is important to point out that the supervisor, using his or her own judgment, is the one who determines the percentage of transfer being achieved within each partial goal. The training transfer becomes a rate when it is scored on a scale of 0 to 100% by trainees' supervisors. When the training transfer produces a tangible result, such as sales increases, or scrap reduction; the result is demonstrated

through monetary values using the ROI formula. If the result is an intangible, for instance: better job motivation or less friction between work teams, the result is demonstrated through declarative testimonies and opinions of experts. In this case, the proof comes from relying on respected authorities, which is termed authority reliance. In both cases, DANAVEN's positive transfer rate is sorted according to the following scale:

- *Very High Application,* when the training goals are achieved between 80 to 100 % range (5 points)
- *High Application*, when the training goals are achieved between 60 and 79% range (4 points)
- *Moderate Application,* when the training goals are achieved between 40 to 59% range (3 points)
- *Low Application,* when the accomplishment of goals is between 20 and 39% range (2 points)
- *Very low Application* when the accomplishment of goals is between 1 and 19% range (1 point)
- When non-application occurs on the job, it is said that a zero transfer occurred.

The major advantage of this method is reinforces trainees and supervisors commitment in order to achieve training results. The disadvantage is associated with the unavoidable subjective character to measure behavior changes to score training goals, as well as the known difficulty of converting data into monetary values. Lastly, it is difficult to find a method that can be objective, friendly, and reliable. Kirkpatrick (1998) states, "the process of evaluating transfer to the job is complicated and often difficult to do" (p. 57).

DANAVEN overall training results

After more than four years implementing the evaluation training system along all DANAVEN's companies, training has become more accountable for demonstrating its contribution to the bottom line. Currently, DANAVEN knows not only how many training hours have been imparted but rather how many training hours have been effective. This is possible because the trainees' contributions are measured and/or stated through written testimonies.

Wide-ranging reports are presented to management monthly, which provide training results for each level of evaluation, including return on training investment. Thus, the evaluation training system has allowed HR departments to move training from the classroom to the boardroom, and from the classroom to the workplace. Indeed, since practitioners are able to track individual and organizational factors affecting training transfer, most trainees have scored high transfer rates.

Additionally, DANAVEN system to evaluate training results has been included as a part of their Corporate Quality Policy and also is considered as an evaluated criterion to reach the award "The Dana Qualify Leadership Process." Therefore, the HR department provides to each of their DANAVEN companies a comprehensive framework of training assessment system, enabling managers, supervisors and trainees appropriately to use its training policy.

Finally, DANAVEN decision makers are aware that no intervention be initiated without first determining and documenting desired organizational outcomes. Because DANAVEN believes it is important to start with results in mind, its evaluation system starts in identifying earlier key *training context factors* affecting the transfer training in order to optimize opportunities for applications in the workplace. Therefore, courses that

might not work as intended are avoided. Likewise, trainees are conscious of their responsibility to take advantage of training activities by transferring their new KSA's into the job.

Positive Training Transfer Supported by Formal Training Evaluations

Based on the empirical evidence discussed so far regarding factors that influence the training transfer on the job, in terms of the investigation conducted, and contemporary training evaluation research; this study develops a theoretical framework that places the training evaluations as an effective means to achieve three important results:

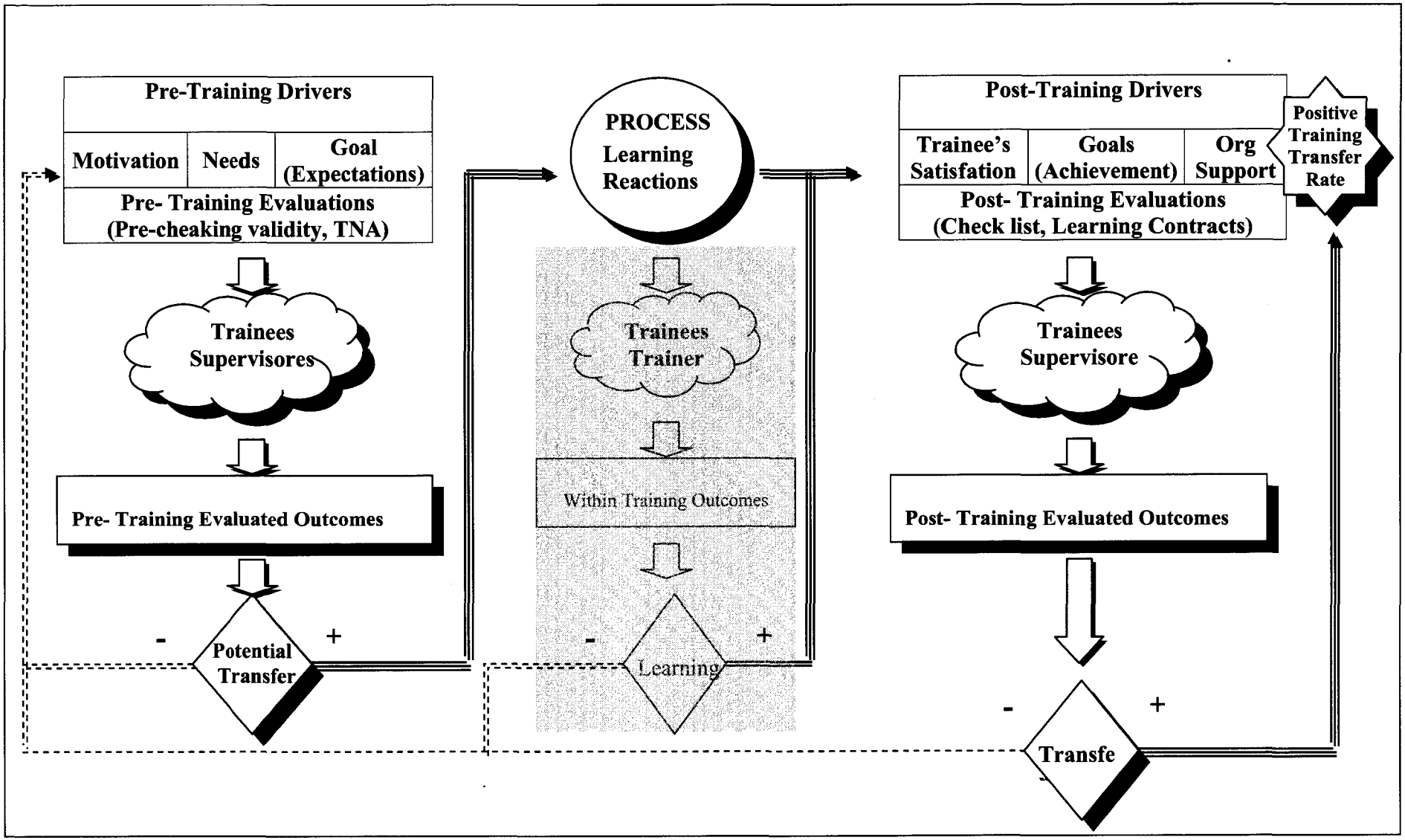
1) To increase the rate of training transfer through suitable evaluation forms available to track inputs, outputs, and processes to insure that each factor affecting transfer back on the job is proceeding as expected.
2) To take advantage of the psychological effect that evaluation causes on trainees when they are being assessed. Evaluations themselves generate a conditional stimulus to transfer new KSA's, since trainees are aware that they are being observed (Blanchard & Camp 1986, p.69).
3) To demonstrate quantitative and qualitative training results which means to keep a set of key indicators for training results and performance.

In order to reach the previous outcomes, an integral evaluation system must be developed and implemented formally. In that sense, this study takes advantage of the DANAVEN's training evaluation system to test the variables under study. The DANAVEN's system poses a methodology to track transfer rate through pre- and-post evaluations, recognizing the complex interactions that take place when training occurs. In fact, this system takes into account a set of pre and post-training factors, at individual and

organizational level, affecting transfer rate, which were grounded in theory by other researches. Pre-training factors includes pre-motivation (such as trainee's preparation, content information, personal expectations, and trainee's background); training assessment needs; and goal setting. Post-training factors includes Trainees' satisfaction, Achievement Training Goals (such as Action Plan Setting, Behavioral changes, Job improvements), and Organizational Support (such as Opportunity to use, Supervisor support, and Reinforcement).

The figure # 6 shows how each set of pre or post-training factors (drivers) are incorporated into suitable evaluation forms to generate predictable outcomes before training take place and after training occurs. It is expected that if evaluations are designed to predict potential transfer of training, people identified as candidates to apply their KSA's successfully will be nominated to attend those training programs. In contrast, people showing poor possibilities to success will be investigated to detect causes and prevent unproductive training results. After, trainees attend their programs; they are evaluated to track post-training drivers. In doing so, it is expected that trainees apply their KSA's on the job. Therefore, the evaluation system may contribute to enhance a positive transfer rate through careful attention to observe *trainees* before, and after training, as well as keeping a close track on the *organizational context*. Additionally, training indicators portfolio will generated and displayed for control purposesl. (See Figure # 6 Positive Training Transfer Supported by Formal Training Evaluations; and Table # 6 Matrix of Training Transfer Factors and Evaluation Criteria).

Figure # 6: Positive Training Transfer Supported by Formal Training Evaluations



Source: Nerza Rey, 2004

Table # 6: MATRIX OF TRAINING TRANSFER FACTORS AND EVALUATION CRITERIA

FACTOR / TIME	INDIVIDUAL	EVALUATION CRITERIA	ORGANIZATIONAL	EVALUATION CRITERIA
PRE	Pre-motivation to transfer	Pre-checking validity (level 0)	Job needs (relevance) Training connection with organizational goals and objectives	Pre-checking validity (level 0)
			Setting of expected goals	Pre-checking validity (level 0)
POST	Acquisition of knowledge	Test (level 2)	Trainees' satisfaction of academic and logistic issues Workplace	Evaluation of satisfaction and potential applicability (level 1)
	Achievement of goals	Check lists Learning contracts (level 3)	Achievement of goals Organizational Support	Check list Learning contracts (level 3) ROTI (level 4)

Source: Nerza Rey (2004)

The previous illustrations suggest that a complete synchronization between each factor affecting the transfer of training and each level of evaluation must be conducted. Therefore, the table # 5 shows the link between training evaluations and training transfer factors, as follows: *pre-training evaluation* tracks factors belonging to level 0 (pre-motivation, training needs assessment, and training goals setting), and *post-training evaluations* tracks factors belonging levels 1, 2, 3 and 4 (Trainees' satisfaction, Achievement of goals, Organizational Support). As a result, all individual and organizational factors identified as predictors of training transfer are considered in this study like independent variables, while the transfer rate is the dependent variable. A thorough explanation of the variables, as operational definitions, is provided in chapter III.

Summary

Chapter II addressed the theories strongly related with evaluation and training transfer, including the contemporary approaches and other critical theoretical foundation. The most important models and findings in these fields, training evaluation and training transfer, were outlined. A clear understanding of the evaluation process as a whole, as well as the historical roots of approaches to learn and perform, found along the training transfer literature; allowed the researcher to draw the framework of this study "Positive Training Transfer Supported by Formal Training Evaluations" Chapter III presents the methodology design used to answer the research questions

CHAPTER III

RESEARCH METHODOLOGY

The purpose of this chapter is to describe the methodology used to determine the relationship between the pre and post-training evaluations (IV) and the training transfer rate (DV). This chapter includes the discussion of a set of methodological issues such as the research questions, the research design, the instrumentation, the target population, the procedures and statistical techniques used to collect and analyze data.

Research Questions

This research study addresses the following research questions concerning the relationship between the positive transfer of training on the job and the use of formal pre and post-training evaluation strategies.

1. What is the relationship among measures of transfer training rate and the use of **pre-training** evaluations?

    1. A. What relationship exists between the application of formal pre-training evaluations to monitor *pre-motivation of employees to attend* a training program and the positive transfer rate on the job?

    1. B. What relationship exists between the application of formal pre-training evaluations to monitor *training needs based on organizational goals and objectives* and the positive transfer rate on the job?

    1. C. What relationship exists between the application of formal pre-training evaluations to monitor the *training goals setting (expected results)* and the positive transfer rate on the job?

2. What is the relationship among measures of transfer training rate and the use of **post-training** evaluations?

2. A. What relationships exist between the application of formal post-training evaluations to monitor the *trainees' satisfaction about pedagogy and logistic issues and* the positive transfer rate on the job?

2. B. What relationships exist between the application of formal post-training evaluations to monitor the *achievement the training goals* and the positive transfer rate on the job?

2. C. What relationships exist between the application of formal post-training evaluations to monitor the *support on the workplace* and the positive transfer rate on the job?

3. What *key factors* within and outside the *training context* could influence the rate of training transfer in DANAVEN, and what *extra factors* could be added to improve its evaluation training system?

4) What relationships exist between the trainee's years worked in the company and the positive transfer rate?

5) What relationship exists between the trainee's job position and the positive transfer rate?

6) What relationship exists between the notification of a training event through a formal invitation and the positive transfer rate?

7) What relationship exists between the setting of a learning contract and the positive transfer rate?

8) What is the transfer rate of each trainee?

The purpose of the above research questions is to determine the relationship existing between the independent variables (formal pre and post-training evaluations) on the dependent variable (positive training transfer rate). In doing that, the researcher attempts to find out convincing arguments to demonstrate that the use of instruments to evaluate training context factors *before* making training decisions and *after* the occurrence of training events may influence the training transfer rate.

Assumptions

This study adopts the following assumptions to conduct the research:

- One of the best ways to reach training effectiveness is by increasing the rate of training transfer.
- There are two important kinds of factors that affect the transfer of training on the job: Individual factors and Organizational ones. Those factors may be monitored by suitable evaluations before making training decisions and after the training events occur.
- Factors associated with instructional designs, instructors, training institutions, didactic materials, and other training facilities are tracked and well controlled by the HR departments. Therefore, they are excluded from this study.
- Evaluations themselves, generate a conditional stimulation transfer new KSA's, since trainees are aware that they are being observed and assessed.

Variables of the Study

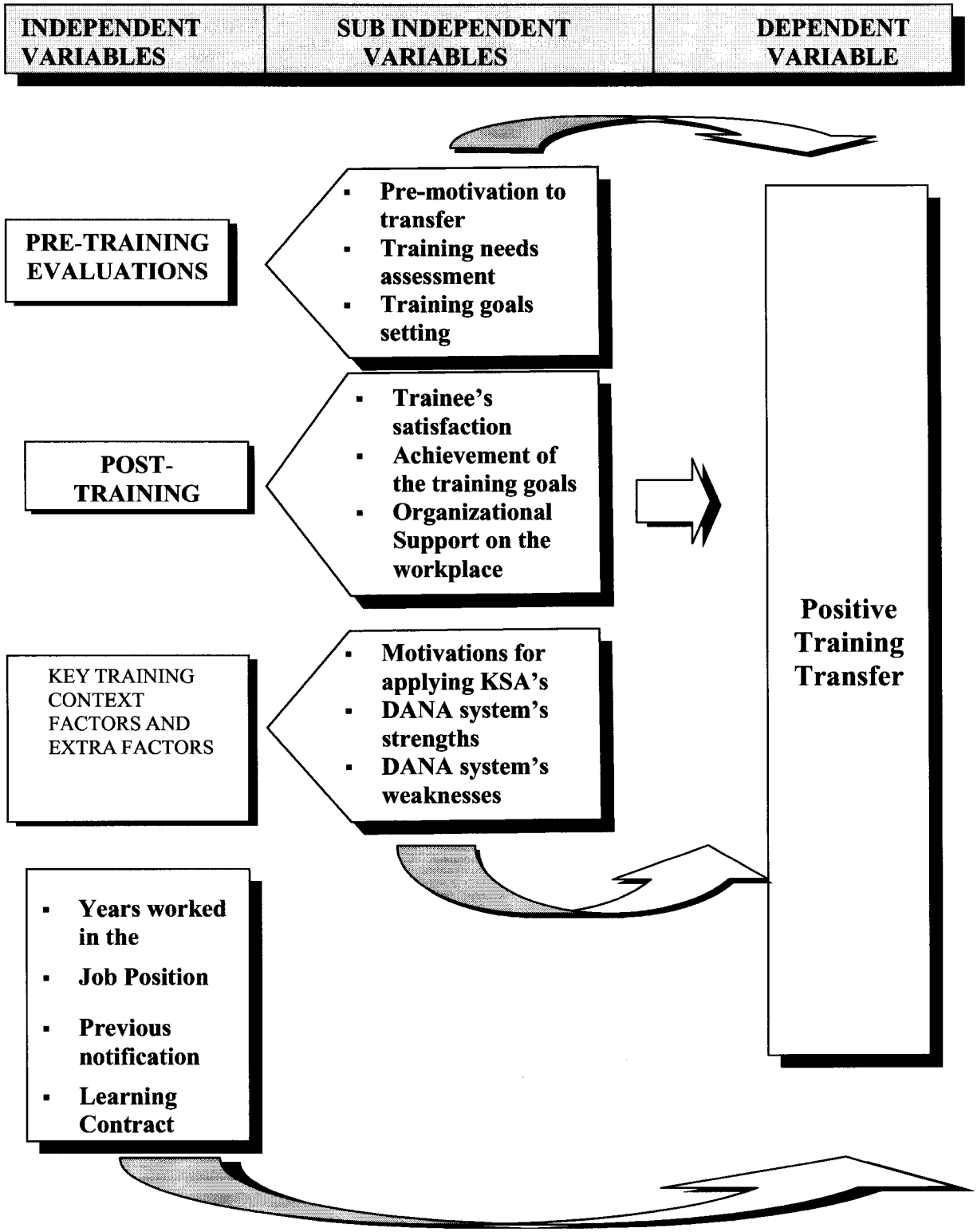
For all quantitative research questions, the first independent variables is: *pre-training evaluation*, which includes pre-motivation to attend, training needs assessment, and training goals setting. The second ones is post-*training evaluation* including trainees' satisfaction, achievement of training goals, and organizational support on their workplace.

For the single qualitative research question, the independent variable is: *key training context factors and extra factors affecting transfer rate,* which include both factors preconceived by the researcher, and non-preconceived factors captured from the range of interviewees' responses elicited by the question.

Demography questions include years worked in the company, and job position.

The single dependent variable for the whole study is the *positive transfer rate*. An illustration of these variables is shown in the following figure (see Figure # 7)

Figure # 7: Variables of the Study



Source: Nerza Rey, 2004

Operational Definition of the Dependent Variable (DV)

Positive Training Transfer

Transfer of training is defined as "the extent to which trainees effectively apply the knowledge, skills, and attitudes gained in a training context back to the job" (Muchinsky, 1991, p. 197). Transfer of training may take place in three different ways: positive, negative, or neutral. Positive training transfer occurs when trainees retain and apply new KSA's to the workplace after a training intervention (Baldwin and Ford, 1988). Casio (1998) suggests evaluating training transfer results after a reasonable length of time, because trainees need time to integrate successfully the new material into their work environment.

In this study, a positive training transfer occurs when the following two conditions are presented:

1. The trainee applies the new KSAs acquired on the job immediately or during a period no longer than six (6) months.
2. The application generates a specific training result linked to learning objectives. Those results impact positively the goals and business objectives. The transfer results can be either tangible or intangible. Tangible results refer to sales growth, gross profit, employee turnover, and so on. Intangible results include issues such as commitment, motivation, values, and other similar.

   This study used info gathered from DANAVEN's database training reports 2003-2004.

The researcher is confident to conduct this study using the transfer data gathered through the DANAVEN's method because important advantages are met. First, it

provides an overall training rate from the classroom to the job for any given courses. Secondly, it reinforces trainees and supervisors commitment in order to achieve training results. Third, it enhances the relationship between trainees and bosses through everyday feedback and encounters. Fourth, it generates a valuable data to make decisions. Fifth, results are analyzed and discussed. This increases the spirit of competence and feelings of satisfaction, pride, and achievement when positives results are raised. After all, this method used to determine transfer rate is inexpensive. The disadvantage is associated with the unavoidable subjective character to measure behavior changes to score training goals, as well as the known difficulty of converting data into monetary values. However, these weak points are reduced through the use of multi- source instruments that include experts and customers suggestions.

Operational Definition of Independent Variables

The study included the examination of three main independent variables: pre-training evaluation, post-training evaluation, and training context factors. These variables are defined operationally as follow.

I. Pre-Training Evaluation

The construct *pre-training evaluation* was defined in this study as an action designed to track individual and organizational factors before decisions on training are taken. The main objective of the pre-training evaluations is to identify earlier key *training context factors* affecting the transfer training in order to avoid unproductive training activities. That action becomes concrete through the use of standardized evaluation instruments. At the individual level, the variable studied is the pre-motivation to transfer. At the organizational level, the factors include the correct identification of training needs,

as well as the setting of training goals aligned with organizational objectives. A full description of each of these matters is presented next.

I.1 Pre-motivation to Transfer: This construct is supported in the literature review through a research conducted by Facteau, Dobblns, Russel, Ladd, & Kudiss (1995), Noe (1986), Holton (1996), Baldwin and Ford (1988), and other representatives. In this study the pre-motivation factors to transfer is measured through four constructs, as used by DANAVEN:

> ***I.1.1Trainee preparation***: This preparation phase consists of offering appropriate information to trainees about the program previously. The criterion to measure trainee preparation construct was asking specific questions to the surveyors. Thus, trainees were asked if they opportunely received a formal invitation with detailed information of the training event; if they had opportunity to be familiar with the program's content; if they knew the reasons to they could have to participate in the program; and finally, if they knew the expected results to be achieved after training.
>
> ***I.1.2. Contents Information***: is the extent to which the trainees judge the content of the training to reflect accurately job requirements. The criterion to measure the content information construct was asking the trainee if the content program will be applicable to his/her job, as well as if the objectives of the program will allow the trainee to overcome training needs.
>
> ***I.1.3. Training Reputation*** is the trainees' perception of the trainers' quality performance and the training institution prestige selected to conduct the training program. The criteria to measure this construct was asking trainees if

they knew the trainer's background, as well as if they felt proud of attending a training program in a prestigious institution.

I.1.4. Freedom to choose the training events is the extent to which the trainees are empowered to choose the type of training desired, as well as to attend training activities. Criteria used to measure this construct, was asking trainees, if they had the opportunity to choose their training programs, as well as, if they were freed to decide and express their participation in training events.

I.1.5. Personal expectations is the trainee's belief that effort devoted to attend training programs will lead to meet internal needs (growth opportunities) and external benefits (rewards, promotions, economic incentives). The criteria to measure personal expectations was asking trainees if they identified growth opportunities through attending training programs, as well as if they were offered some incentives to attend and transfer KSA's in the job.

I.1.6. Personal background is a set of requirements associated with education and experience, which can facilitate or hinder the trainee's ability to learn and, consequently, to be motivated to transfer. At this level, it is very important to ensure that potential trainees are able to domain the content program successfully. Therefore, the trainees were asked if they were confident, with regard to possessing the appropriate foundational knowledge and/or experience in attending the training program.

I.2. Training Needs Assessment (TNA)

TNA is the examination to identify job deficiencies between expected and perceived job performance, which can be overcome by training interventions. In this study, the training needs assessment is recognized as a vital process with a higher impact on training results. The target population was asked about the following three associate constructs:

***I.2.1. Training needs and job requirements*:** are the extent to which the individual skills, knowledge, and abilities are compared against those required for effective job performance. For measuring the present construct, trainees were asked if the content program helped them to close the gap of KSA's.

***I.2.2. Training needs and organizational objectives*:** are the extent to which training needs are aligned with goals to be achieved by the trainee's department and the whole organization. Trainees were asked if the contents of the program were linked with department goals achievement, so that strategic objectives of the company could be gotten.

***I.2.3. Type of training needs*:** Specialized literature reports that training needs can be categorized upon whether it is reactive or proactive. A reactive (remedial) training need occurs when the perceived performance deficiency becomes a discrepancy between expected and perceived performance from the employee's current job. A proactive training need appears when the current job behavior reflects an inability to meet future standards or expectations. There are two variants of proactive training: preventative need, which looks for assuring that an employee will be able to meet future expectations for his or her current job, or proactive needs, which looks development purposes in order to perform at a higher level position. In this study, trainees were asked if

the contents of the program allowed them to cover a training need existing in their current jobs, or it may in future opportunities.

I.3. Training Goals Setting: is the extent to which supervisors enunciate expected training results. In order to make these goals effective, they must be focused on realistic, specific, measurable, achievable, and scheduled results. This construct has several supporters, such as (Locke, 1968), Locke, Shaw, Sarri, and Latham, (1981), McLean and Persico (1994), and others. Almost all training transfer model include training goals setting as an influential factor of transfer rate.

Trainees were asked if they had an opportunity to discuss the goals to be achieved after the training events. The training goals setting are measured in two dimensions, short-time or long-time.

> ***I.3.1. Quantitative goals*** is the extent to which line managers state in numerical condition what results are expected to be done by their juniors after training programs; for example, "Decrease overtime utilization by 11% within three months using the shift planning improvement plan" (Whalen 1999, p. 61).
>
> ***I.3.2. Qualitative goals*** is the extent to which line managers state in narrative style what results are expected to be done by their juniors after training programs; for example, "Implement strategies that improve job satisfaction of work using effective coaching skills" (Whalen 1999, p. 61).

II. Post-Training Evaluations

This study defines the construct post-training evaluation as a set of the instruments designed to assure successful achievement of tangible or intangible training outcomes. The company under study, basically monitors the so called training context factors through tailored instruments: survey of satisfaction and potential applicability (applied in the classroom), and pre-post check lists or learning contracts (applied in the workplace). In order to measure the construct post-training evaluation three variables are studied: trainees' satisfaction (at individual and organizational level) achievement of the training goals (at individual and organizational level), and organizational support in the workplace (at organizational level). A full description of each of these is presented next.

II. 1. Trainees' satisfaction is measured in this study through a numerical index called Satisfaction and Potential Applicability Indicator (SPAI), which was gathered through a standardized DANAVEN's questionnaire. This instrument was administrated at the end of each training program. Trainees were asked about three important aspects: Achievement of objectives and potential applicability (70%), Academic issues and training facilities (20%), and Overall evaluation (10%). The surveyed instrument generates a score which is classified according to the following scale:

Excellent: between 40 and 36 range (5 points)

Very Good: between 35 and 30 range (4 points)

Good: between 29 and 25 range (3 points)

Regular: between 24 and 20 range (2 points)

Deficient: between 19 and 08 range (1 point)

For the purpose of this study, it is important to point out; this construct was measured through existing indicators reported by each participant at the time when he/she attended the training event.

II.2. Achievement of training goals:

Achievement of training goals encompasses those post-training actions undertaken to ensure that the training imparted will generate tangible or intangible goals. The evaluation instruments used to monitor the achievement of training goals are pre-post check lists, or learning contracts. The variables used to measure the present construct were: plans of action, identification of behavioral changes, identification of new improvements on the job, and measurement of tangible results.

II.2.1. Plans of Action is an evaluation tool used to determine, if the objectives as specifically planned in the program, have been completed within a certain time frame. The plan is filled after the trainee has been trained. Both trainees and supervisors establish some realistic goals allowing trainees to apply the KSA's obtained in the courses. These objectives/goals are evaluated after 30, 60, and/or 90 days respectively. Therefore, target population is asked if they had encounters with their bosses to set post-training goals.

II.2.2. Identification of behavioral changes is the extent to which supervisors follow closely the trainee performance to identify new behavioral chances occurred as a result of training. Participants are asked if superiors identify post-training behavioral changes.

II. 2.3. Identification of new improvements on the job is the extent to which supervisors follow closely the trainee performance to identify new improvements done by trainees as a result of training.

II.3. Organizational Support on the Workplace:

is defined as the extent to which a set of organizational policies and practices are put into action to facilitate and reinforce use of the new ksa's on the job.

II.3.1. Opportunity to use is the extent to which trainees are provided with or obtain resources, time, and tasks on the job enabling them to use training in the job. Therefore, trainees was asked if they were given adequate free time to plan and achieve improvements in the organization, if they got the necessary resources to apply the new KSA's, and if they were assigned tasks using those new KSA's.

II.3.2. Support of supervisors is the extent to which supervisors and managers encourage training applications on the job and follow-up post-training performance. Trainees were asked if they got the appropriate support from their immediate supervisors, as well as if they were provided with criticism, comments, and /or advice from their boss regarding how well they are applying what they learned.

II.3.4. Reinforcement is the extent to which the organization implements motivational policies that highlight new behavior or changes. The policies include recognition from the boss and others, public presentations of training results, and non- monetary rewards.

III. Key Training Context Factors and Extra Factors Affecting Transfer Rate

This study defines the *key training context factors* as a set of elements within and outside a workplace that either supports or hinders the transference of training from the learning environment to the working environment. Factors influencing transfer can be classified in two main categories, depending on whether they are related to the trainee or to the environment. Trainee-related factors can be divided into two sub-categories: motivation and ability-related factors. Environment related factors can be divided into two sub-categories: job- related and organization-related factors.

In order to identify what factors affect training transfer rate within DANAVEN, three variables are studied: motivation for applying KSA's on the job, strengths of DANAVEN's training evaluation system, and weaknesses of DANAVEN's training evaluation system. A full description of each of those constructs is presented next.

III.1 Motivation for Applying KSA's on the Job

This construct refers to reasons why people apply their KSA's on the job. Therefore, participants are requested to choose and to rank from a preconceived list their preferences. Moreover, they are allowed to suggest other motives for applying KSA's on the job.

III.2 Strengths of DANAVEN's training evaluation system

This construct refers to positive aspects of DANAVEN's training evaluation system. Therefore, participants are requested to chose and rank from a preconceived list the strengths of the cited system. Moreover, they are allowed to mention other strengths they may have perceived.

III.3 Weaknesses of DANAVEN's training evaluation system

This construct refers to negative aspects of DANAVEN's training evaluation system. Therefore, participants are requested to chose and rank from a preconceived list the weaknesses of this system. Moreover, they are allowed to mention other weaknesses they may have perceived.

In brief, the following tables offer a compilation of each variable under study indicating sources, and measurement specification for each variable.

Table # 7: Dependent Variable Positive Transfer Training Rate

VARIABLE (DV)	DEFINITION	SUB-VARIABLE	MEASUREMENT SPECIFICATION	SOURCE
POSITIVE TRANSFER RATE	It occurs when the trainee applies the trained skills to tasks or settings immediately and continues to be used on the job. The application impacts positively the business goals/ objectives.	Length of application	Between the first post-training day to six months later	Existing Data
		Tangible results	ROI	Existing Data
		Intangible results	Performance indicators Supervisor opinions	Existing Data
		Positive Transfer score	Up 39% score on a scale 0 to 100% range	Existing Data

Source: Nerza Rey (2004)

Table # 8: Pre-Training Evaluation Variables

VARIABLE	DEFINITION	SUB-VARIABLES	MEASURES	SOURCE
				Questionnaire
PRE-TRAINING EVALUATION	It encompasses information gathered before training intervention occurred. Its objective was to avoid unproductive training interventions through identifying prior key factors of transfer training.	Pre-motivation to attend	- Trainee preparation	1 to 2
			- Content information	3 to 4
			- Training reputation	5 to 6
			- Freedom to choose	7 to 8
		Training needs assessment	- Personal expectations	9
			- Personal Background	10
			- Training needs and job requirements	11
		Training goals setting	- Training needs and organizational objectives	12
			- Type of training needs	13
			- Training goals	14

Source: Nerza Rey (2004)

Table # 9: Post-training evaluations

POST-TRAINING EVALUATION	It encompasses the information gathered at the end of the training event and after trainees return to their jobs.	Trainees' satisfaction	Achievement of objectives & potential applicability Academic/ logistic issues Overall appreciation	Existing Data Questionnaire
	Its objective is assuring an effective accomplishment of results according to stated expectations.	Achievement of training goals	Action Plan setting Identification of behavioral changes Identification of new improvements on the job	15,16, 33 17 18 Questionnaire
		Organizational Support on the workplace	Opportunity to use Supervisor support Reinforcement	19 to 24 25 to 26 27

Source: Nerza Rey (2004)

Research Design

The statistical nature of the first two research questions and the exploratory nature of the last one, led to the development of a non-experimental cross sectional survey research study, with descriptive and exploratory purposes. As a result, a multi-method approach, *dominant-less dominant design* was employed. Creswell (1994) affirms, "In this design, the researcher presents the study within a single, dominant paradigm with one small component from the overall study drawn from the alternative paradigm"(p.177).

Following the Creswell definition, this study attempts to understand and describe the influence of the pre and post-training evaluations on the training transfer rate at quantitative level predominantly, rather than at qualitative level. Morse (1991) supports the researcher's decision when he states, "A project must be theoretically driven by the qualitative methods incorporating a complementary quantitative component, or theoretically driven by quantitative method, incorporating a complementary qualitative component" (cited by Creswell, 1994; p. 179).

The objective of the quantitative approach (descriptive) is to describe statistical relationships between the independent variable, evaluation of training factors, and the dependent variable, and also the training transfer rate. Moreover, it tries to find multiple interrelationships involved when transfer of training is studied. The objective of the qualitative approach (exploratory) is to understand the process of the training transfer within the context in which the participants act. As a matter of fact, Creswell cites, "Qualitative research focuses on the process that is occurring as well as the product or outcome. Researchers are particularly interested in understanding how things occur" (Frankel & Wallen, 1990; Merriam, 1988; cited by Creswell, 1994; p. 162)

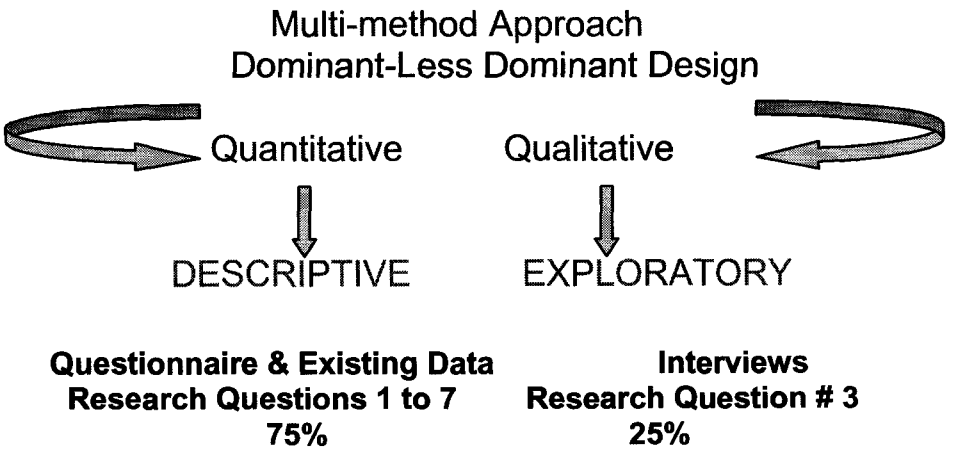
The quantitative approach relies on two fundamental research sources to be used in the data collection phase: the design of suitable questionnaire and the existing data research reporting chronologically each training event imparted by DANAVEN. As the qualitative approach relies on information gathered from interviews to validate some issues included in the questionnaire and explore others.

At the quantitative level, the major advantage of conducting this non-experimental survey was to observe and estimate of associations between variables studied. Additionally, it provided the opportunity to develop foundational knowledge about what factors may be included into training evaluations to influence the transfer of training rate positively. In contrast, the most important limitation was the inability to make causal inferences from the data. Therefore, the study says whether the evaluation training system have or have not an influence on the transfer rate; however, it is unable to identify the possible rationales of influence (e.g. coercion, recognition, rewards, or others)

At qualitative level, the main advantage was to explore the theme studied through the interviewees' lens. Marshall and Rossman (1989) suggest that, "this entails immersion in the life of the setting chosen for the study; the researcher enters the informants' world and through ongoing interaction, seeks the informants' perspectives and meanings" (cited by Creswell, 1994; p. 161). Therefore, conducting qualitative interviews provide the opportunity to grasp the interviewee's attitude to apply his/her KSA's from the class room to the job, as well as to identify weaknesses and strengths of the current evaluation system design. The chief disadvantage is the researcher deals with a voluminous amount of information, which must be reduced and categorized to be interpreted appropriately and objectively.

In brief, the major advantage to conduct this multi-method research *dominant-less dominant design* resided on the potential opportunity to counteract weaknesses from both approaches, qualitative and quantitative. Therefore, the weaknesses of each approach can be addressed by the strengths of another one. In this case, the weakness of the descriptive approach to identify causality was counteracted by the qualitative approach, which produced more convincing conclusions about cause and effect. Although, purist researchers would be concern about the mach, this multi-method research "perhaps best mirrors the research process of working back and forth between inductive and deductive models of thinking in a research study" (Creswell, 1994;p. 178). The following figure shows the main characteristics of the study research design (see figure # 8)

Figure # 8: Design of the study



Population and Sampling Plan

Data was collected from trainees who worked all of the 8 DANAVEN companies and had accomplished the following minimum requirements:

I. Attendance of at least one training event of more than 16 hours in the last six (6) months.

II. Training evaluation at level # 3 (Job application)

III. Transfer rate indicator reported

Target population size was captured from database training reports 2003-2004 of all DANAVEN companies (Danaven Corporation, Danaven Traction Technologies, Danaven Structural Solutions, Danaven SH Fundiciones, Danaven System Integration, Danaven Tuboauto, Danaven Wix Global Filtration, Danaven Brake and Chassis), from September 01, 2003 to March 31, 2004. In order to use and access the referreddatabase, permissions were procured from the Human Resources Vice-President (Appendix E, F, G).

As a result, 310 DANAVEN trainees filled up the minimal requirements of the study, satisfactorily. The main characteristics of target population (parameters) showed in the Table # 10 reflects the following information:

- Gender: Because the manufacturing process nature, the company is oriented to hire more male than female employees. Therefore, around 70% employees are males, while only 30% employees are female. Female personnel, usually is assigned to administrative positions.
- Age: target population is represented by young people predominantly. Even though the average of age is 36-year-old more than 65% of the population has less than 40 years old.

- Educational level: one of the DANAVEN's hiring policies is to employ people having at least high school degree. As a result over 65 percent of employees have a middle educational level. Employees with responsibilities at tactical and strategic level are required a higher educational degree.
- Job Position: five job positions categories were identified for grouping all individual job positions. The most representative category was "supervisor" with 45% over the total target population, against "blue collar" category with only 4%. Little blue-collar representation was caused for the lack of minimum requirements to participate in this study.
- Years worked in the company: more than 50% employees have worked in DANAVEN during more than five years. The average of years working in the company is 7.5 years. The highest percent of employees (as 34%) have worked in DANAVEN for more than ten years.

Table # 10: Target Population Parameters

ITEMS	PARAMETERS
Gender	Male: 70% employees Female: 30% employees.
Age	Average 36-year-old
Educational Level	65% high school and 35% superior
Job Position	Managerial: 6,5% Supervisory: 45,5% Administrative employees: 22,8% Production employees: 21,4% Blue collar: 3,7%
Years Worked	< 2 years: 11% >2 < 5 years: 29% > 5 < 10 years: 26% > 10 years: 34%

Source: Nerza Rey, 2004

Some characteristics of DANA VENEZUELA companies are the following: DANA VENEZUELA is composed of 8 companies located in different Venezuelan cities, all companies produce automotive systems and parts. DANAVEN companies utilize similar productive processes and exhort the same corporate polices. The size of each company varies from 30 employees (the smallest) to 335 employees (the biggest), with a total amount of employees around 1200 people.

The main rationale for using all this target population was to increase the level of confidence and avoid sampling error. In addition, the target population size was feasible and handled by the researcher.

Data Collection and Instrumentation

This study used three major instruments to gather appropriate information from the participants: questionnaires, interviews, and existing data. All 310 DANAVEN trainees were invited to participate in the study. Ten of them were selected to be interviewed, while the other 300 were invited to respond the questionnaire. In both cases, the invitation was directly extended by the researcher, person to person, through a cover letter entitled "PARTICIPANT INFORMED CONSENT" (Appendix H, H1; Appendix J, J1; Appendix K, K1).

As a result, the researcher handed out 280 quantitative questionnaires, and conducted eight audio-recorded interviews. Time spent to collect all data was four months approximately; and the response rate was 77%. Briefly, the participation of each involved trainee was as follows:

215 trainees responded the questionnaire

63 trainees did not return the questionnaire

2 trainees did not accept to participate in the study because the topic area was not interesting for them.

22 trainees were not able to participate in the study, due to vacations, leave of absence and total absence because training courses abroad.

8 trainees were interviewed.

Questionnaire

A Likert-scale questionnaire was developed by the researcher to address the research questions and to measure the variables under study. The purpose of this predominantly Likert-scale questionnaire was to identify the trainees' perception regarding the follow-up process of each factor affecting the training transfer rate through

pre-and-post-training evaluations. The questionnaire was divided in three sections: scaled questions, ranking questions, and control questions respectively (see appendix I and I1 "Questionnaire").

Section One, included a set of 27 scaled questions classified in two important categories, according to each construct involved in the study: The first 14 questions were designed to explore what happened *before* the participant attended the training event under study, while the 13 last questions were included to explore what happened *after* the participant attended the mentioned training event (see tables # 8 & 9). Each question on this section had five possible responses: strongly agree (5), agree (4), no opinion (3), disagree (2), and strongly disagree (1). Higher scores (5) were to be associated with positive responses, in contrast, lower scores (1) were to be associated with negative responses. Also, all statements were written in a positively sense.

Section two encompassed three ranked questions to explore specifically the third research question. The first ranking question (# 28) proposed to identify why people transfer their KSA's on the job. The other two questions (#29 and #30) intended to identify perceived weaknesses and strengths regarding the Danaven Evaluation Training System in order to improve it. On this section, each question included a list of six statements. From each list given, the participant selected only three statements according his/her preference and then the participant ranked them according the following criterion: (1) Most important, (2) important, (3) less important.

Section three included four control questions, numbered 31 to 34: two "fill-in-the-blank" questions regarding job position, and years working in the company; and two yes/no questions related to pre-post-training practices.

Questionnaire's Data Collection

The processes to administrate the questionnaires encompassed the following steps:

1. From the DANAVEN database report, the researcher generated a list of participants' names per company, and the training event that he/she attended in the last six months which filled all of the study requirements.
2. Questionnaires were personalized using a predetermined code, which allowed researcher to identify the name of the each participant and the name of the company where he/she worked.
3. The name of the training event to be evaluated by the participant was written at the top of the first page. This information was needed for matching the questionnaire results against the transfer rate reported per participant afterwards.
4. The participants received a cover letter along with the questionnaire in Spanish, it was delivered personally.
5. After their voluntary acceptation to participate in the study, the researcher explained them the instructions verbally to reinforce written information, as well as, to be confident that participant understood every point related to the questionnaire.
6. In order to help the participant remember details of the training event to be evaluated through the questionnaire, the researcher included within the invitation the content program and other information such as date, instructor, and place where it was imparted. This prevention was done to avoid any kind of mistake, and also, in order to reinforce external validity.
7. The participants responded the questionnaire on their own pace, at one or later. In the first case, the researcher waited for the responses and picked them up. In the second case, the researcher got the questionnaire back from the participant.

To ensure the expected higher return rate, the researcher used several control mechanisms such as check lists, telephone calls, reminder e-mails, and/or personal encounters. Also, the researcher explored why those 63 surveyed did not return the questionnaire as expected. A sample of seven people of them stated that they had a lot of work and did not have any extra time to complete this questionnaire it. The mentioned kind of response allows researcher to be confident regarding the 77% response rate.

Reliability and Validity

Reliability is defined by Hair (1998) as, "the extent to which a variable or set of variables is consistent in what it is intended to measure. If multiple measurements are taken, the reliable measures will all be very consistent in their values". In order to assure the questionnaire reliability, Cronbach's alpha coefficient was used to measure the degree to which the Likert questions reflected internal consistency. The pilot test was applied to a representative group of ten DANAVEN trainees and practitioners. The criteria to select this pilot group were: firstly, taking one trainee per company who had met the minimal requirements of the study, and secondly, including at least two HR practitioners, who managed the DANAVEN's Evaluation Training System. Both of them were selected randomly and the result was a higher level of reliability (0.8447), which confirms that the questions on the instrument are homogeneous and reflect internal consistence. The result is showed in the following table # 11: Reliability Analysis Scale Alpha . In addition, *content–related evidence*, also named face validity was used to measure the appropriateness of the items on the instrument according to the specialists' judgment regarding this matter.

Table # 11: Reliability Analysis Scale Alpha

N of Cases = 10

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	3.4741	2.3000	4.5000	2.2000	1.9565	.4428
Item Variances	Mean	Minimum	Maximum	Range	Max/Min	Variance
	1.2272	.2333	2.2667	2.0333	9.7143	.3846

Reliability Coefficients 27 items

Alpha = .8716 Standardized item alpha = .8447

Source: Nerza Rey (2004)

Interviews

The purpose of the interviews was to obtain inputs to answer the third research question. The third question is qualitative in nature; therefore, it sought to capture responses from the informants to understand the process of training transfer within the context where the participants take action every day, and the influence that this context could have on their own actions.

The original research proposal called for the selection of at least a representative group of ten DANAVEN people for personal interview. However, only eight of them were interviewed. There were two candidates who did not have time in their schedules to permit an interview and subsequently declined, but they felt the study would benefit the DANAVEN's training practices. Although, sample size in qualitative research is generally small, Patton says, "it depends on what you want to know, the purpose of the inquiry, what's at stake, what will be useful, what will have credibility, and what can be done with available time and resources" (1990, p. 184). Since the purpose of this interview is to look for additional information to be used as a complementary insight of

the data gathered through the questionnaires, a representative number of eight trainees was more than sufficient.

The criteria to select the candidates for personal interviews were: firstly receptivity. Secondly, it was included one interviewee per each DANAVEN's company studied, "the final goal is the emergence of a larger, consolidated picture" (Tesch, 1990, p.97). Lastly, other conditions, such as at least four (4) years working in the company, at least more than 30-year-old in age, and job position at tactical or strategic level, were included too. As a result, the representative group of eight interviewees who accomplished the mentioned criteria is showed on table # 12: Characteristics of Representative Group of Interviewees

Table # 12: Characteristics of Representative Group of Interviewees

Interviewee Code	Age	Gender	Years Worked
D1	32	F	4
D2	35	M	9
D3	37	M	6
D4	42	M	17
D5	40	M	5
D6	37	M	10
D7	34	F	5
D8	38	M	5

Source: Nerza Rey (2004)

The methodology to conduct the interviews was face to face, one on one. The researcher audio-recorded each interview to facilitate posteriori analysis. Before the interviews, the researcher established a rapport with the subjects. This allowed participants to be more open to the researcher and share their true experiences without intruding way upon their lives. Some of them spent around forty minutes relating their experiences. The interview was focused on five main questions outlined in Appendix L and L1 "Qualitative Questionnaire". Responses were grouped according to categories associated with the variables being studied. All interviews were conducted in appropriated areas on the workplace. Also, before the interviews some preventions were taken to protect participants' anonymity, in that sense, each interviewee was identified through the code company (D1 to D8). Since, it was selected only one participant per company, the use just the company's code was feasible.

Existing Data

Existing data included reports, and digital archives with training information gathered from September 01, 2003 to March 31, 2004. The contents of the reports included the record of each employee trained. A typical individual DANAVEN's report reflects the scores achieved for him/her on each training evaluation administrated. Dependent variable data (transfer rate) was obtained with the cooperation of the outsourcing firm. This firm developed tailored software for keeping on updated training database. Also, the outsourcing firm is responsible for distributing and monitoring the evaluation instruments, as well as interpreting the results gathered. Therefore, all information related to the DANAVEN training reports was provided directly by the outsourcing firm. Monthly, the outsourcing firm sends out to DANAVEN the transfer rate results and other indicators such as trainee's satisfaction. Transfer rate is measured through a score that ranges from 0% to 100%.

According to the internal procedure, after a trainee attends a training program, he/she has six months to apply the new KSA's on the job. Therefore, if a trainee is not able to apply those KSA's after six months, the transfer rate is sorted as neutral, which is equal to zero. For that reason, the researcher chose only the cases in which the trainee had registered the transfer rate. Likewise, scores related to the trainee's satisfaction (independent sub-variable) to measure the construct trainee's satisfaction, were captured from the own trainee's information stored in the citeddatabase per specific training program. For both contents validity and reliability this data was checked and authorized by the HR vice-president as a subject-matter expert. However, it is important to point out the unavoidable subjective character to measure behavior changes and score training goal. The supervisor, using his or her own judgment, is the one who determines the percentage

of transfer being achieved by the trainee on each partial goal. In this study, the researcher made an effort to reduced biases and weaknesses through the use of multi- source information, which included experts, and the own trainees statements.

Data Analysis Process

The data analysis for this study was analyzed through the Statistical Package for Social Science (SPSS) version 11. The statistical analysis included both descriptive statistics and inferential statistics.

The first phase of data analysis was to develop a codebook with each variable to be analyzed. This codebook included: Questions numbers, Variable numbers, column numbers, code descriptor and software variable names. The codebook was used by this researcher as a guide to make data entry less prone to errors (Cooper and Emory, 1995). Using the codebook guide, the researcher was able to generate the following information: the "variable data" as required by SPSS, the complete matrix of original data, and all required statistic analysis, both descriptive and inferential. (see table # 1

Table: # 13: Codebook for responses

Question Number	Variable Number	Column Localization	Code Descriptor	SPSS 11 Variable Name
		1-5	Company identification and Trainee Number COMPANIES D1= Danaven Corporation, D2= Danaven Traction Technologies D3= Danaven Structural Solutions, D4= Danaven SH Fundiciones, D5= Danaven System Integration, D6= Danaven Tuboauto, D7= Danaven Wix Global Filtration, D8= Danaven Brake and Chassis, TRAINEE NUMBER 001....300....n	CODE
		6-11	Birth date 00=day 00= month 00=year	BIRTH
1	1	12	Pre-Evaluation Pre-motivation	PreMot1
2	1	13	Pre-motivation	PreMot2
3	1	14	Pre-motivation	PreMot3
4	1	15	Pre-motivation	PreMot4
5	1	16	Pre-motivation	PreMot5
6	1	17	Pre-motivation	PreMot6
7	1	18	Pre-motivation	PreMot7
8	1	19	Pre-motivation	PreMot8
9	1	20	Pre-motivation	PreMot9
10	1	21	Pre-motivation	PreMot10
11	2	22	Training Needs Assessment	TNA11
12	2	23	Training Needs Assessment	TNA12
13	2	24	Training Needs Assessment	TNA13
14	3	25	Training Goals Setting	GOAL14
	4	26-28	Post-Evaluation Trainees' satisfaction	ISAP
15	5	29	Achievement of Training Goals	Achiev15
16	5	30	Achievement of Training Goals	Achiev16
17	5	31	Achievement of Training Goals	Achiev17
18	5	32	Achievement of Training Goals	Achiev18
19	5	33	Achievement of Training Goals	Achiev19
20	5	34	Achievement of Training Goals	Achiev20
21	6	35	Support on the workplace	Supp21
22	6	36	Support on the workplace	Supp22
23	6	37	Support on the workplace	Supp23
24	6	38	Support on the workplace	Supp24
25	6	39	Support on the workplace	Supp25
26	6	40	Support on the workplace	Supp26
27	6	41	Support on the workplace	Supp27

Table: # 13 (cont.)

28	7	42-47	Motives for applying 1=most important 2=important 3=less important	Motive28-1 Motive28-2 Motive28-3 Motive28-4 Motive28-5 Motive28-6
29	7	48-53	Strengths of DANAVEN system 1=most important 2=important 3=less important	Streng29-1 Streng29-2 Streng29-3 Streng29-4 Streng29-5 Streng29-6
30	7	54-59	Weaknesses DANAVEN system 1=most important 2=important 3=less important	Weak30-1 Weak30-2 Weak30-3 Weak30-4 Weak30-5 Weak30-6
31	8	60	Years worked in the company Less than one year = 1 Between 1.00 and 2 years= 2 Between 2.01 and 5 years= 3 Between 5.01 and 10 years= 4 More than 10 = 5	YearsW31
32	9	61	Job position Managerial=1 Supervisor=2 Administrative Employees=3 Production Employees=4 Clerical=5	JobPo32
33	10	62	Formal Invitation Yes=1 No=2	Noti33
34	11	63	Learning Contract Yes=1 No=2	LC34

Source: Nerza Rey (2004)

The second phase for data analysis was to do appropriate statistic analysis. Regression analysis was the primary statistic tool used in this study: firstly, regression analysis determines relationships between the dependent and independent variables. In other words, "What is the effect of a particular set of independent variables on the dependent variable?" Also, regression analysis studies the separate and collective variance contributions of the independent variables to the variance of the dependent variable (Heppner et al., 1992). Moreover, using regression analysis the researcher is able to quantify the strength of relationships between variables, as well as to discover patterns among the variations in values of several variables. For all those reasons, the researcher was confident to use regression analysis to study the influence of training evaluations, pre and post, on training transfer.

In addition, the study also included descriptive statistics in order to analyze, describe, summarize, and show the original collected data in an organized manner to be easily managed by researcher and understood by others. Specifically, descriptive statistics was used to analyze those ranking, and control questions under study, as well as for analysis means, modes, standard deviations, frequency counts, and a cross-tabulation of the data gathered in this research.

The following table describes in detail the statistic methods used for each research question under study according the type of data, the source, and mode of response. (See Table # 14: Data Analysis)

Table # 14 Data Analysis

RESEARCH QUESTION	DATA SOURCE	TYPE OF DATA	RESPONSE MODE	STATISTICAL METHOD
IV # 1A: What relationship exists between the application of formal pre-training evaluations to monitor pre-motivation of employees to transfer KSA's and the positive transfer rate?	Questionnaire Sect. 1 questions # 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Interval/ Ratio	Scale	Regression analysis Frequency counts
IV # 1B: What relationship exists between the application of formal pre-training evaluations to monitor training needs based on organizational goals and objectives and the positive transfer rate?	Questionnaire Sect. 1 # 11, 12, 13	Interval/ Ratio	Scale	Regression analysis Frequency counts
IV# 1C: What relationship exists between the application of formal pre-training evaluations to monitor the training goals setting and the positive transfer rate?	Questionnaire Sect. 1 # 14	Interval/ Ratio	Scale	Regression analysis Frequency counts
IV # 2A: What relationship exists between the application of formal post-training evaluations to monitor the trainees' satisfaction and the positive transfer rate?	Existing data	Index		Descriptive Measures of Central Tendency
IV # 2B: What relationship exists between the application of formal post-training evaluations to monitor the achievement the training goals and the positive transfer rate?	Questionnaire Sect. 1 # 15, 16, 17, 18, 19, 20	Interval/ Ratio	Scale	Regression analysis Frequency counts
IV # 2C: What relationships exists between the application of formal post-training evaluations to monitor the support on the workplace and the positive transfer rate?	Questionnaire Sect. 1 # 21, 22, 23, 24, 25, 26, 27	Interval/ Ratio	Scale	
IV # 3: What key factors within and outside the training context could influence the rate of training transfer in DANAVEN, and what extra factors could be added to improve its evaluation training system?	Questionnaire Sect. 2 # 28, 29, 30 Interviews	Ordinal Codes	Ranking Open-end	Descriptive Measures of Central Tendency
IV # 4 What relationship exists between the trainee's years worked in the company and the positive transfer rate?	Questionnaire Sect. 3: # 31	Nominal	Fill in	Descriptive Measures of Central Tendency
IV # 5 What relationship exists between the trainee's job position and the positive transfer rate?	Questionnaire Sect. 3 # 32	Nominal	Fill in	Descriptive Measures of Central Tendency
IV # 6 What relationship exists between the notification of the training event through a formal invitation and the positive transfer rate?	Questionnaire Sect. 3 # 33	Nominal	Yes/no	Descriptive Measures of Central Tendency
IV # 7 What relationship exists between the setting of a learning contract and the positive transfer rate?	Questionnaire Sect. 3 # 34	Nominal	Yes/no	Descriptive Measures of Central Tendency
DV # 8: What is the transfer rate of each trainee?	Existing data	Index		Descriptive Measures of Central Tendency

Source: Nerza Rey (2004)

Ethical Considerations

The researcher obtained official permission from Lynn University IRB to begin the study on June 09, 2004, (see Appendix "M"); therefore, the collecting data phase began afterwards. Questionnaires and interviews' data was collected during a period of four months, beginning the last week of June 2004 until October 2004, according to previous scheduled agenda agreed with each DANAVEN's company.

All participants, surveyors and interviewees, were provided of appropriate and extensive information about the study by the researcher, according to the University's Institutional Review Board (IRB) guidelines related to Non-English Speaking Subjects, and Human Sujects in Foreign Countries. As requested, all questionnaires and interviews were conducted in Spanish, the official and native language of all informants. As a result, all forms and instruments used in this research study were translated in both languages, English and Spanish, and certified by a Public Interpreter:

Appendix E: Introduction Letter,

Appendix F: Request for Research Cooperation,

Appendix G: Permission Letter from Dana Venezuela,

Appendix H: Participant Informed Consent Questionnaire (English Version),

Appendix H1: Participant Informed Consent Questionnaire (Spanish Version),

Appendix I: Questionnaire (English Version),

Appendix I1: Questionnaire (Spanish Version),

Appendix J: Participant Informed Consent Interview (English Version),

Appendix J1: Participant Informed Consent Interview (Spanish Version),

Appendix K: Informed Consent to Audio-Record (English Version),

Appendix K1: Informed Consent to Audio-Record (Spanish Version),

Appendix L: Qualitative Questionnaire (English Version),

Appendix L1: Qualitative Questionnaire (Spanish Version).

Lastly, measures were taken to prevent violations of confidentiality or anonymity by assigning codes to protect all participants, as fully explained early. Likewise, the entire data and information collected, including signed informed content forms by each participant, will be retained by the researcher and used for the purpose of this research, without disclosing sources, as offered in the referred forms. Additionally, even though the researcher was conducted in a foreign country all preventions were taken "to ensure that human subjects receive the same protection they would in the United States and that any special cultural factors are taken into consideration" (IRB's guidelines, 2003).

Summary

This chapter fully discussed the methodology and research design supporting this study. Issues such as the research questions, the research design, the instrumentation, the target population, the procedures and statistical techniques used to collect and analyze quantitative and qualitative data were explained in detail. The instruments used to collect information, questionnaires, interviews, and existing data, were presented and analyzed separately, which also included methods to assure reliability and validity.

Finally, the researcher was aware mainly to provide rationales for the selection of the multi-method research *dominant-less dominant design*, and accurate operational definitions of each variable involved in the study, for better understanding. Analyses of the results gathered from quantitative and qualitative data collected are reported in chapter Four.

CHAPTER IV

FINDINGS

The purpose of this research is to demonstrate that formal implementation of training evaluations, before and after training, may positively influence the transfer training from the classroom to the job. This chapter is mainly to examine the statistically significant relationships between the dependent variable, *positive training transfer,* and the two primary independent variables, the *pre training evaluation and post training evaluation.* In addition, the third independent variable, *training context factors* is analyzed through qualitative methods.

The study includes two types of data analysis, quantitative, primary, and qualitative, secondary. In order to examine the statistical relationships, three types of quantitative analysis were used: descriptive statistical analysis (frequency counts and measures of central tendency), relational analysis (Cross tabs, and correlation analysis), and statistical analysis (multiple regression analysis). In the qualitative analysis, two methods were used, a within- case study, and a Cross- case study.

In Greene, Caracelli, and Graham's (1989) terms, the use of both types of analysis, statistical and qualitative may have several purposes: triangulating or converging findings, elaborating on results, using one method to inform another, discovering paradox or contradiction, and extending the breadth of the inquiry.

The findings are derived from information gathered from three key sources: questionnaires, interviews, and existing data. Questionnaires and interviews were used to examine the participants' perceptions on DANAVEN's training evaluation system, while

the transfer rate of each trainee surveyed came from the DANAVEN's existing data. Since the nature of this research is dominantly quantitative, all statistical analyzes are presented first, while the qualitative findings are provided at the end of this chapter.

Research Question 1

What is the relationship among measures of transfer training rate and the use of pre-training evaluations?

To answer this question, the research question was broken down into the following sub-question:

Research Question 1A

What relationship exists between the pre-motivation of employees to attend a training program and the positive transfer rate on the job?

In order to determine the relationship between the set of ten pre-motivation questions and the transfer rate, two types of analysis were conducted.

Frequency Counts: Using frequency counts, it was possible to determine the respondent's attitude tendency (favorable or unfavorable) regarding pre-motivation issues. The following Table shows the results (see Table #15: Frequencies of Pre-Motivation to Attend a Training Program).

Table #15: Frequencies of Pre-Motivation to Attend a Training Program

SCALE / STATEMENTS	1 SD	%	2 D	%	3 NO	%	4 A	%	5 SA	%	Total
1. I had the opportunity to become familiar with the program's content before the training obtained place	47	**21.9**	60	**27.9**	17	**7.9**	67	**31.2**	24	**11.2**	215
2. I had the opportunity to discuss the reasons to participate in the training event	37	**17.2**	68	**31.6**	30	**14.0**	56	**26.0**	24	**11.2**	215
3. All parts of the content seemed to be relevant to improve my performance	2	**.9**	5	**2.3**	21	**9.8**	108	**50.2**	79	**36.7**	215
4. The program seemed to be appropriate to overcome KSA's deficiencies related to my job	1	**.5**	10	**4.7**	25	**11.6**	108	**50.2**	71	**33.0**	215
5. The trainer's background boosted my desire to attend the program	7	**3.3**	5	**2.3**	49	**22.8**	74	**34.4**	80	**37.2**	215
6. The reputation of the training institute selected boosted my interest to attend the program	3	**1.4**	0	**0.0**	38	**17.7**	92	**42.8**	82	**38.1**	215
7. The training program selected obtained into account my areas of interest	19	**8.8**	25	**11.6**	28	**13.0**	87	**40.5**	56	**26.0**	215
8. I felt free to decide on my attendance to the program	23	**10.7**	39	**18.1**	30	**14.0**	56	**26.0**	67	**31.2**	215
9. Attendance in the program seemed to promise some kind of personal or professional benefit	2	**.9**	6	**2.8**	6	**2.8**	87	**40.5**	114	**53.0**	215
10 My personal background (education and experience) gave me confidence to attend the program	3	**1.4**	5	**2.3**	15	**7.0**	85	**39.5**	107	**49.8**	215
Sub Total Pre-Motivation	**145**	**6.7**	**225**	**10.4**	**262**	**12.1**	**824**	**38.3**	**709**	**32.9**	**2150**

Source: Nerza Rey (2004)

An analysis of response patterns to the 10 pre-motivation statements (training preparation, content information, freedom to choose, personal expectations, and background self-confidence), indicates an evident favorable opinion related those issues. Indeed, 73% of the responses (38.3% agree; and 32.9% total agree) reflected a favorable opinion versus only 17% of the responses (10.4 disagree, and 6.7 total disagree), which showed an unfavorable opinion regarding pre-motivation issues. On statements # 1 and # 2, less than 50% of the respondents disagree related that "they had opportunity to become familiar with the program's content before training obtained place, and they had opportunity to discuss the reasons to participate in the training event." All other variables studied scored high values. This Table implies that DANAVEN followed up appropriately all those pre-motivation issues related with training preparation, content information, freedom to choose their training, personal expectations, and background self-confidence, before the trainees attended training programs.

Regression Analysis

Trainees scores regarding pre-motivation to attend training events were tabulated and a regression analysis revealed no statistically significant relationship ($p=.226 > .05$) between these perceptions and the training transfer rate. The relationship between pre-motivation to attend training events and transfer rate found a value of R^2 to be .060, and a value of adjusted R^2 to be .014, which means that a low 6.0 percent of the variance in positive transfer rate is explained by pre-motivation to attend training and vice versa. (See Table # 16: "Regression Results Analyzing the Relationship between of Perceived Pre-Motivation Issues and the training transfer rate").

Table # 16: Regression Results Analyzing the Relationship between of Perceived Pre-Motivation Issues and the training transfer rate.

	Df	SS	MS	F	Sig.**
Regression	10	14.717	1.472	1.312	.226
Residual	204	228.893	1.122		
Total	214	243.609			

$R^2 = .060$

Adjusted $R^2 = .014$

Std. Error of the estimate=1.059

** p< .01 Source: Nerza Rey 2004

Research Question 1B

What relationship exists between the training needs assessment based on organizational goals and objectives and the positive transfer rate on the job?

Using frequency counts, the respondent's attitude tendency (favorable or unfavorable) regarding Training Needs Assessment issue is shown in the following Table # 17.

Table #17: Frequencies of Training Needs Assessment (TNA) Issues

SCALE / STATEMENTS	1 SD	%	2 D	%	3 NO	%	4 A	%	5 SA	%	Total
11. The program was a result of the training needs assessment to close the gap of KAS's related with my job	12	**5.6**	44	**20.5**	52	**24.2**	70	**32.6**	37	**17.2**	215
12. The program was a result of the training needs assessment to achieve goals of my department	4	**1.9**	8	**3.7**	30	**14.0**	83	**38.6**	90	**41.9**	215
13. The program seemed to cover a future training need to enable me to deal with new responsibilities in the future	11	**5.1**	17	**7.9**	31	**14.4**	87	**40.5**	69	**32.1**	215
Sub Total TNA	**27**	**4.2**	**69**	**10.7**	**113**	**17.5**	**240**	**37.2**	**196**	**30.4**	**645**

Source: Nerza Rey 2004

According to those results, it is evident that at participants perceive DANAVEN's training needs assessment favorably. In fact, the pattern of responses is 67.6% favorable versus only 14.9% unfavorable. Additionally, on statement # 12 it is clear that the TNA process is linked with the departments' goals and strategic objectives of the company, as demonstrated by 80.5% of favorable responses versus only 5.6 % of unfavorable. Likewise, 49.8% of respondents believe that training programs allow them close the gap of KSA's related with their job, and 72.6% believe that training programs prepare them to assume new responsibilities.

Regression Analysis

Trainees scores regarding training needs assessment issues were tabulated and a regression analysis revealed a relationship approaching statistical significance (p=.083 > .05) between participant's perception and the training transfer rate. The relationship between the training needs based on organizational objectives and the positive transfer rate found a value of R^2 to be .031 with a value of adjusted R^2 to be .017. It means that a low 3.1 percent of the variance in positive transfer rate (DV) is explained by the training needs based on organizational objectives (IV) and vice versa. (See Table # 18: Regression Results Analyzing the Relationship between of Perceived Training Needs Assessment Issues and the training transfer rate).

Table # 18: Regression Results Analyzing the Relationship between of Perceived Training Needs Assessment Issues and the training transfer rate.

	Df	SS	MS	F	Sig.**
Regression	3	7.66	2.522	2.255	.083
Residual	211	236.043	1.119		
Total	214	243.609			

R2 = .031

Adjusted R2=.017

Std. Error of the estimate=1.058

** p< .01 Source: Nerza Rey (2005)

Research Question 1C

What relationship exists between the training goals setting (expected results) and the positive transfer rate on the job?

An analysis using frequency counts inferred that respondents' opinions are divided, 36.7% of respondents disagree regarding "I had the opportunity to discuss and/or set the goals to be achieved by me after the training" However, 42.8% of respondents are agree with the mentioned statement. It is curious that 20.5% of respondents did not agree nor disagree regarding this point. The following Table # 19 shows the results

Table #19: Frequencies of Training Goals Setting

SCALE / STATEMENTS	1 SD	%	2 D	%	3 NO	%	4 A	%	5 SA	%	Total
14. I had the opportunity to discuss and/or set the goals to be achieved by me after the training	24	**11.2**	55	**25.6**	44	**20.5**	62	**28.8**	30	**14.0**	215
Sub Total Goals	**24**	**11.2**	**55**	**25.6**	**44**	**20.5**	**62**	**28.8**	**30**	**14.0**	**215**

Source: Nerza Rey 2004

Regression Analysis

Trainees scores regarding training goals setting were tabulated and a regression analysis revealed statistically significant relationship ($p=.019 < .05$) between these perceptions and the training transfer rate. The relationship between the training goals setting and the positive transfer rate found a value of R^2 to be .026, with a value of adjusted R^2 to be .021. It means that the low 2.6 percent of the variance in positive transfer rate (DV) is explained by training goals setting (IV) and vice versa. (See Table #

20: Regression Results Analyzing the Relationship between of Perceived Training Goals Setting and the training transfer rate).

Table # 20: Regression Results Analyzing the Relationship between of Perceived Training Goals Setting and the training transfer rate.

	Df	SS	MS	F	Sig.**
Regression	1	6.217	6.217	5.578	.019
Residual	213	237.392	1.115		
Total	214	243.60			

R^2 = .026

Adjusted R^2 =.021

Std. Error of the estimate=1.056

** p< .01 Source: Nerza Rey 2004

Overall Research Question 1: PRE-TRAINING EVALUATIONS

Finally, the overall result on the first research question "*What is the relationship among measures of transfer training rate and the use of pre-training evaluations*?" found two types of findings.

At descriptive statistical level, the pattern of responses (68.4% favorable vs. 18% unfavorable) implies that DANAVEN tracked appropriately individual and organizational factors affecting transfer rate, *before* the trainees attended training programs. (See Table # 21 "Frequencies of Pre-Evaluation Issues").

At inferential statistical level, the results reveled statistically significant relationship ($p=.026 < .05$) between those pre-evaluations used by DANAVEN to track pre-motivation to attend training programs, training needs assessment, and setting training goals before training occurs and the training transfer rate (see Table # 22). The relationship between the pre-training evaluations and the positive transfer rate found a value of R^2 to be .119 with a value of adjusted R^2 to be .057. It means that a moderately low 12 percent of the variance in positive transfer rate (DV) is explained by pre-training evaluations (IV) and vice versa.

Using the information contented on table 22, including section for *Coefficients*, a critical value for F was found in "Critical Values of the F distribution for alpha= .05 Table." For the numerator, the number of independent variables (14), and for the denominator, N-K-1= 215- 14-1= 200. As a result, $d.f = (14, 200) = 1.67$. This critical value of 1.67 for an alpha = 0.05 indicates that the equation is statistically significant. Regarding the Beta weights values, it is possible observe the relative contribution of the 14 sub-independent variables to the explanatory power of this equation. In this case variables # $X_{13, (\text{Future training needs})}$, $X_{10\ (\text{background})}$, $X_{14\ (\text{goal setting})}$, and $X_{7(\text{personal interest})}$, respectively, explain more than either of the other ten variables. However, in this particular case, a multicollinearity condition should exist, since almost all independent variables included under pre-training evaluations umbrella are correlated themselve. Therefore, using those coefficients as an indicator of the relative importance of predictor variables is not trustworthy at all. Finally, the measures of statistical significance of each of the 14 regression coefficients are judged be significantly different from zero. (See Table # 22: Regression Results Analyzing the Relationship between of Perceived PRE-EVALUATION Issues and the training transfer rate"

Table # 21: Frequencies of PRE-EVALUATION Issues

SCALE / STATEMENTS	1 SD	%	2 D	%	3 NO	%	4 A	%	5 SA	%	Total
1. I had the opportunity to become familiar with the program's content before the...	47	21.9	60	27.9	17	7.9	67	31.2	24	11.2	215
2. I had the opportunity to discuss the reasons to participate in the training event	37	17.2	68	31.6	30	14.0	56	26.0	24	11.2	215
3. All parts of the content seemed to be relevant to improve my performance	2	.9	5	2.3	21	9.8	108	50.2	79	36.7	215
4. The program seemed to be appropriate to overcome KSA's deficiencies related to my job	1	.5	10	4.7	25	11.6	108	50.2	71	33.0	215
5. The trainer's background boosted my desire to attend the program	7	3.3	5	2.3	49	22.8	74	34.4	80	37.2	215
6. The reputation of the training institute selected boosted my interest to attend the program	3	1.4	0	0.0	38	17.7	92	42.8	82	38.1	215
7. The training program selected obtained into account my areas of interest	19	8.8	25	11.6	28	13.0	87	40.5	56	26.0	215
8. I felt free to decide on my attendance to the program	23	10.7	39	18.1	30	14.0	56	26.0	67	31.2	215
9. Attendance in the program seemed to promise some kind of personal or professional benefit	2	.9	6	2.8	6	2.8	87	40.5	114	53.0	215
10. My personal background (education and experience) gave me confidence to attend the program	3	1.4	5	2.3	15	7.0	85	39.5	107	49.8	215
11. The program was a result of the training needs assessment to close the gap of KAS's related	12	5.6	44	20.5	52	24.2	70	32.6	37	17.2	215
12. The program was a result of the training needs assessment to achieve goals of my department	4	1.9	8	3.7	30	14.0	83	38.6	90	41.9	215
13. The program seemed to cover a future training need to enable me to deal with new responsibilities in the future	11	5.1	17	7.9	31	14.4	87	40.5	69	32.1	215
14. I had the opportunity to discuss and/or set the goals to be achieved by me after...	24	11.2	55	25.6	44	20.5	62	28.8	30	14.0	215
Sub Total Pre-Motivation	**145**	**6.7**	**225**	**10.4**	**262**	**12.1**	**824**	**38.3**	**709**	**2.9**	**2150**
Sub Total TNA	**27**	**4.2**	**69**	**10.7**	**113**	**17.5**	**240**	**37.2**	**196**	**30.4**	**645**
Sub Total Goals	**24**	**11.2**	**55**	**25.6**	**44**	**20.5**	**62**	**28.8**	**30**	**14.0**	**215**
TOTAL FREQUENCIES	**196**	**6.5**	**349**	**11.5**	**419**	**13.9**	**1126**	**37.4**	**935**	**31.0**	**3010**

Source: Nerza Rey 2004

Table # 22: Regression Results Analyzing the Relationship between of Perceived PRE-EVALUATION Issues and the training transfer rate.

	Df	SS	MS	F	Sig.**
Regression	14	28.910	2.065	1.924	.026
Residual	200	214.699	1.073		
Total	214	243.609			

$R = .344$

$R^2 = .119$

Adjusted $R^2 = .057$

Std. Error of the estimate=1.036

** $p < .01$ Source: Nerza Rey 2004

Table # 22 (Cont.) **Coefficients [a]**

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3.393	.601		5.644	.000
	I had the opportunity to become familiar with the program´s content before the training took place	2.983E-02	.069	.038	.435	.664
	I had the opportunity to discuss the reasons to participate in the training event	5.679E-02	.081	.069	.697	.487
	All parts of the content seemed to be relevant to improve my performance	-.104	.115	-.076	-.905	.367
	The program seemed to be appropriate to overcome KSA's deficiencies related my job	9.060E-02	.112	.069	.807	.420
	The trainer's background boosted my desire to attend the program	9.684E-04	.090	.001	.011	.991
	The reputation of the training institute selected boosted my interest to attend the program	-7.820E-02	.105	-.060	-.747	.456
	The training program selected took into account my areas of interest	.101	.076	.117	1.341	.181
	I felt free to decide on my attendance to the program	-3.616E-02	.070	-.047	-.520	.604
	Attendance in the program seemed to promise some kind of personal or professional benefit	-8.185E-02	.115	-.058	-.714	.476
	My personal background (education and experience) gave me confidence to attend the program	.278	.112	.214	2.483	.014
	The program was a result of the training needs assessment to close the gap of KAS's related with my job	-7.220E-02	.070	-.078	-1.027	.305
	The program was a result of the training needs assessment to achieve goals of my department and/ or strategic objectives of the company	4.907E-02	.090	.043	.544	.587
	The program seemed to cover a future training need to enable me to deal with new responsibilities in the future	-.212	.078	-.220	-2.724	.007
	I had the opportunity to discuss and/or set the goals to be achieved by me after the training	.127	.066	.148	1.915	.057

a. Dependent Variable: transfer rate scale

Research Question 2

What is the relationship among measures of transfer training rate and the use of post-training evaluations?

To answer this question, the research question was broken down into the following sub-questions:

Research Question 2A

What relationship exists between the formal post-training evaluations to monitor the trainees' satisfaction and potential applicability and the positive transfer rate on the job?

Data on *trainees' satisfaction and potential applicability* was obtained using a numerical index called the Satisfaction and Potential Applicability Indicator (SPAI), which was gathered through existing DANAVEN indicators reported per each participant by the time when he/she attended the training event under studied. DANAVEN applies this instrument to know the perception of participants regarding their satisfaction about the quality of training programs, as well as to predict the potential applicability of their KSA's on the job. According to DANAVEN's interpretation, if a trainee scored high values it means that he/she was satisfied with the quality of the programs, the instructor performance, and those logistic issues related to learning conditions, materials, and other facilities; therefore, he/she has high chance to apply the new KSA's on the job. As indicated in Table # 23 "Frequencies of Trainees' satisfaction," 76% surveyed people judged as "Excellent" and 24% as "Very Good" the quality of the programs that they attended, and their chance to apply it on the job. It is important to stress that participants did not select other categories such as Good, Regular, or Deficient. The favorable results allow inferences that training administrators at DANAVEN obtained care about pedagogy

and logistic issues before and during the event to guarantee an appropriate learning conditions, and potential transferability on the job.

Table # 23: Frequencies of Trainees' satisfaction

	Frequency	Percent	Valid Percent	Cumulative Percent
Very Good	51	23.7	23.7	23.7
Excellent	164	76.3	76.3	100.0
Total	215	100.0	100.0	

Source: Nerza Rey 2004

Regression Analysis

Using regression analysis, trainees scores regarding training satisfaction were tabulated and a regression analysis revealed no statistically significant relationship ($p=.112 > .05$) between these perceptions and the training transfer rate. The relationship between the trainees' satisfaction and the positive transfer rate found a value of R^2 to be .012, and a value of adjusted R^2 to be .007, which means that the very low 1.2 percent of the variance in positive transfer rate (DV) is explained by trainees' satisfaction (IV) and vice versa. (See Table # 24 "Regression Results Analyzing the Relationship between of Perceived Trainees' Satisfaction and the training transfer rate")

Table # 24: Regression Results Analyzing the Relationship between of Perceived Trainees' Satisfaction and the training transfer rate.

	DF	SS	MS	F	Sig**
Regression	1	2.886	2.886	2.553	.112
Residual	213	240.724	1.130		
Total	214	243.609			

R^2 = .012

Adjusted R^2 =.007

Std. Error of the estimate=1.063

Source: Nerza Rey 2004

Research Question 2B

What relationship exists between the formal post-training evaluations to monitor the achievement training goals and the positive transfer rate on the job?

The construct *achievement training goals* encompasses those post-training actions undertaken to ensure that the training imparted generates tangible or intangible goals. Therefore, it includes the following aspects: plans of action, identification of behavioral changes, identification of new improvements on the job, and measurement of tangible results. In order to determine the relationship between the set of five questions regarding *achievement of the training goals* and the transfer rate, two types of analysis were conducted, Frequency Counts and Regression.

Using frequency counts, Table # 25 shows the respondent's attitude regarding the achievement of training goals as moderately favorable (44.7 % favorable vs. 37.1 unfavorable). However, an analysis of the results noted that the opinions were divided

almost in proportional amount on three of five statements included to measure this construct. Consequently, for the first statement, "My supervisor evaluated post-training goals accomplished" the results showed 42.3% of unfavorable opinion, while 40.5 were favorable. Likewise, regarding the setting of action plans (learning contract), 38.7% reflected an unfavorable tendency against 37.2% with favorable pattern. It inferred that sometimes action plans were set after training but sometimes not. In same way, most people (46.6%) disagreed regarding "I had the opportunity to analyze and discuss the results achieved by the training" while 31.2% agree with this issue. Finally, more than 50% of trainees recognized that supervisors identified those new improvements on the job against 27%. The following Table # 25: Frequencies of Achievement Training Goals, shows the results.

Table #25: Frequencies of Achievement Training Goals

SCALE / STATEMENTS	1 SD	%	2 D	%	3 NO	%	4 A	%	5 SA	%	Total
15. My immediate supervisor evaluated post-training goals accomplished	46	**21.4**	45	**20.9**	37	**17.2**	72	**33.5**	15	**7.0**	215
16. The setting of the action plan (learning contract) with my supervisor drove me to apply the new KSA's on my job	32	**14.9**	36	**16.7**	22	**10.2**	83	**38.6**	42	**19.5**	215
17. The supervisor followed up on my performance to identify new behavioral changes	30	**14.0**	53	**24.7**	52	**24.2**	64	**29.8**	16	**7.4**	215
18. The supervisor followed up on my performance to identify new improvements on the job as a result of training	26	**12.1**	54	**25.1**	48	**22.3**	67	**31.2**	20	**9.3**	215
19. I had the opportunity to analyze and discuss the results achieved by the training	14	**6.5**	44	**20.5**	29	**13.5**	100	**46.5**	28	**13.0**	215
Sub Total Achievement Training Goals	**201**	**15.5**	**279**	**21.6**	**236**	**18.2**	**423**	**32.7**	**151**	**11.7**	**1290**

Source: Nerza Rey 2004

Regression Analysis

Using regression analysis, trainees scores regarding achievement training goals were tabulated and a regression analysis revealed a statistically significant relationship ($p=.004 <.05$) between these perceptions and the training transfer rate. The relationship between achievement training goals and the positive transfer rate found a value of R^2 to be .079, and a value of adjusted R^2 to be .057, which means that 7.9 percent of the variance in positive transfer rate (DV) is explained by achievement training goals (IV) and vice versa. (See Table # 26 "Regression Results Analyzing the Relationship between of Perceived Achievement Trainees Goals and the training transfer rate").

Table # 26: Regression Results Analyzing the Relationship between of Perceived Achievement Trainees Goals and the training transfer rate.

	DF	SS	MS	F	Sig**
Regression	5	19.207	3.841	3.578	.004
Residual	209	224.402	1.074		
Total	214	243.609			

R^2 = .079

Adjusted R^2 =.057

Std. Error of the estimate=1.036

** p< .01 Source: Nerza Rey 2004

Table # 26 (Cont.) **Coefficients** [a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.393	.601		5.644	.000
	I had the opportunity to become familiar with the program's content before the training took place	2.983E-02	.069	.038	.435	.664
	I had the opportunity to discuss the reasons to participate in the training event	5.679E-02	.081	.069	.697	.487
	All parts of the content seemed to be relevant to improve my performance	-.104	.115	-.076	-.905	.367
	The program seemed to be appropriate to overcome KSA's deficiencies related my job	9.060E-02	.112	.069	.807	.420
	The trainer's background boosted my desire to attend the program	9.684E-04	.090	.001	.011	.991
	The reputation of the training institute selected boosted my interest to attend the program	-7.820E-02	.105	-.060	-.747	.456
	The training program selected took into account my areas of interest	.101	.076	.117	1.341	.181
	I felt free to decide on my attendance to the program	-3.616E-02	.070	-.047	-.520	.604
	Attendance in the program seemed to promise some kind of personal or professional benefit	-8.185E-02	.115	-.058	-.714	.476
	My personal background (education and experience) gave me confidence to attend the program	.278	.112	.214	2.483	.014
	The program was a result of the training needs assessment to close the gap of KAS's related with my job	-7.220E-02	.070	-.078	-1.027	.305
	The program was a result of the training needs assessment to achieve goals of my department and/ or strategic objectives of the company	4.907E-02	.090	.043	.544	.587
	The program seemed to cover a future training need to enable me to deal with new responsibilities in the future	-.212	.078	-.220	-2.724	.007
	I had the opportunity to discuss and/or set the goals to be achieved by me after the training	.127	.066	.148	1.915	.057

a. Dependent Variable: transfer rate scale

Research Question 2C

What relationship exists between the formal post-training evaluations to monitor the support on the workplace and the positive transfer rate on the job?

Support on the workplace encompasses three aspects: opportunity to use new KSA's, support of supervisors, and reinforcement policies. Using frequency counts, it was possible to determine that there is an evident pattern of favorable responses regarding this issue. Indeed, an overall amount of 69% surveyed people showed a favorable tendency (48.3% agree, and 20.8% total agree), while only 18% reflected an unfavorable tendency (12.8% disagree, and 5% total disagree) regarding that organizational support that they received to apply new KSA's on their jobs. People scored high values on those statements related with opportunity to use resources and time to implement new KSA's; opportunity to have an appropriate organizational climate to implement ideas gained from training; support from supervisors; and good company policies reinforcing trainees to transfer their KSA's. The statement "assignments and tasks given allow me to use of new KSA's learned" scored the highest value (82.3% vs. 11.7%), which allowed inferred that training is linking with job requirements. In contrast, less than 50% of the respondents disagree related that, "they had the opportunity to show to top management the training goals achieved by them." Likewise, opinions regarding the attitude of supervisors to provide criticism, comments, and/or advice to trainees were more unfavorable (41%) than favorable (34%), and it is curious that 25% of respondents neither agreed nor disagreed regarding this point. The following Table # 27: "Frequencies of organizational Support" shows the results.

Table #27: Frequencies of Organizational Support

SCALE / STATEMENTS	1 SD	%	2 D	%	3 NO	%	4 A	%	5 SA	%	TOTAL
20. I had the opportunity to show to top management the training goals achieved by me	53	**24.7**	47	**21.9**	48	**22.3**	37	**17.2**	30	**14.0**	215
21. Resources (equipment, machines, tools, supplies) needed to apply the new KSA's on my job were opportunely provided	10	**4.7**	24	**11.2**	22	**10.2**	108	**50.2**	51	**23.7**	215
22. The necessary time to implement new KSA's on my job was provided	10	**4.7**	31	**14.4**	21	**9.8**	109	**50.7**	44	**20.5**	215
23. The organizational climate around my job boosted me to implement ideas gained from training	8	**3.7**	15	**7.0**	23	**10.7**	115	**53.5**	54	**25.1**	215
24. Assignments and tasks given allow me to use the new KSA's learned	7	**3.3**	18	**8.4**	13	**6.0**	122	**56.7**	55	**25.6**	215
25. My immediate supervisors offered me the necessary support to apply the new KSA's on the job	13	**6.0**	34	**15.8**	30	**14.0**	104	**48.4**	34	**15.8**	215
26. The supervisor provided me criticism, comments, and/or advice regarding how well I have applied what I learned	33	**15.3**	55	**25.6**	54	**25.1**	60	**27.9**	13	**6.0**	215
27. Company policies have reinforced my desire to transfer the new KSA's to the job	7	**3.3**	16	**7.4**	20	**9.3**	109	**50.7**	63	**29.3**	215
Sub Total Organizational Support	**88**	**5.7**	**193**	**12.8**	**183**	**12.1**	**727**	**48.3**	**314**	**20.8**	**1505**

Source: Nerza Rey 2004

Regression Analysis

Using regression analysis, trainees scores regarding organizational support to apply new KSA's on the job were tabulated and a regression analysis revealed statistically significant relationship ($p=.001 < .05$) between these perceptions and the training transfer rate. The relationship between organizational support and the positive transfer rate found a value of R^2 to be .116, with a value of adjusted R^2 to be .081. It means that a moderate low 11.6 percent of the variance in positive transfer rate (DV) is explained by organizational support (IV) and vice versa.

(See Table # 28 "Regression Results Analyzing the Relationship between of Perceived Organizational Support to Apply New KSA's on the Job and the training transfer rate")

Table # 28: Regression Results Analyzing the Relationship between of Perceived Organizational Support to Apply New KSA's on the Job and the training transfer rate.

	DF	SS	MS	F	Sig**
Regression	8	28.173	3.522	3.367	.001
Residual	206	215.436	1.046		
Total	214	243.609			

R^2 = .116

Adjusted R^2 =.081

Std. Error of the estimate=1.023

** p< .01 Source: Nerza Rey 2004

Overall Research Question 2 POST-TRAINING EVALUATIONS

Finally, the overall result on the second research question "*What is the relationship among measures of transfer training rate and the use of post-training evaluations*?" found two types of findings.

At the descriptive statistical level, the pattern of responses about post-training evaluations (61% favorable vs. 25% unfavorable) implies that DANAVEN well tracked individual and organizational factors affecting transfer rate, *after* the trainees attended training programs. (See Table #29 "Frequencies Post-Evaluation Issues).

At the inferential statistical level, the results reveled a statistically significant relationship (p=.004 < .05) between those post-evaluations used by DANAVEN to track the trainees' satisfaction and potential applicability, achievement of training goals, and organizational support. . The relationship between the post-training evaluations and the positive transfer rate found a value of R^2 to be .145 with a value of adjusted R^2 to be

It means that a moderate 14.5 percent of the variance in positive transfer rate (DV) is explained by post-training evaluations (IV) and vice versa.

Using the information contented on table 30, including section for *Coefficients*, a critical value for F was found in "Critical Values of the F distribution for alpha= .05 Table." For the numerator, the number of independent variables (14), and for the denominator, N-K-1= 215- 14-1= 200. As a result, $d.f = (14, 200) = 1.67$. This critical value of 1.67 for an alpha = 0.05 indicates that the equation is statistically significant. Regarding the Beta weights values, it is possible observe the relative contribution of the 14 sub independent variables to the explanatory power of this equation. In this case variables # $X_{17, (\text{Follow-up})}$ $X_{22 (\text{time}), \text{ and }}$ $X_{24 (\text{assignments related training}),}$ respectively, explain more than either of the other ten variables. However, in this particular case, a multicollinearity condition should exist, since almost all independent variables included under post-training evaluations umbrella are correlated themselve. Therefore, using those coefficients as an indicator of the relative importance of predictor variables is not trustworthy at all. Finally, the measures of statistical significance of each of the 14 regression coefficients are judged be significantly different from zero. (See Table # 30: Regression Results Analyzing the Relationship between of Perceived POST-EVALUATION Issues and the training transfer rate)

Table # 29: Frequencies of POST-EVALUATION Issues

SCALE / STATEMENTS	1 SD	%	2 D	%	3 NO	%	4 A	%	5 SA	%	Total
15. My immediate supervisor evaluated post-training goals	46	**21.4**	45	**20.9**	37	**17.2**	72	**33.5**	15	**7.0**	215
16. The setting of the action plan with my supervisor drove me to apply the new KSA's	32	**14.9**	36	**16.7**	22	**10.2**	83	**38.6**	42	**19.5**	215
17. The supervisor followed up on my performance to identify new behavioral changes	30	**14.0**	53	**24.7**	52	**24.2**	64	**29.8**	16	**7.4**	215
18. The supervisor followed up on my performance to identify new improvements ...	26	**12.1**	54	**25.1**	48	**22.3**	67	**31.2**	20	**9.3**	215
19. I had the opportunity to analyze the results achieved by the training	14	**6.5**	44	**20.5**	29	**13.5**	100	**46.5**	28	**13.0**	215
20. I had the opportunity to show top managementhe training goals achieved by me	53	**24.7**	47	**21.9**	48	**22.3**	37	**17.2**	30	**14.0**	215
21. Resources (equipment, machines, tools, supplies) needed to apply the new KSA's on my job were opportunely provided	10	**4.7**	24	**11.2**	22	**10.2**	108	**50.2**	51	**23.7**	215
22. The necessary time to implement new KSA's on my job was provided	10	**4.7**	31	**14.4**	21	**9.8**	109	**50.7**	44	**20.5**	215
23. The organizational climate around my job boosted me to implement ideas gained from training	8	**3.7**	15	**7.0**	23	**10.7**	115	**53.5**	54	**25.1**	215
24. Assignments and tasks given allow me to use the new KSA's learned	7	**3.3**	18	**8.4**	13	**6.0**	122	**56.7**	55	**25.6**	215
25. My immediate supervisors offered me the necessary support...	13	**6.0**	34	**15.8**	30	**14.0**	104	**48.4**	34	**15.8**	215
26. The supervisor provided me criticism, comments, and/or advice regarding ...	33	**15.3**	55	**25.6**	54	**25.1**	60	**27.9**	13	**6.0**	215
27. Company policies have reinforced my desire to transfer the new KSA's to the job	7	**3.3**	16	**7.4**	20	**9.3**	109	**50.7**	63	**29.3**	215
Sub Total Trainees' satisfaction Indicator							**51**	**23.7**	**164**	**76.3**	**215**
Sub Total Achievement Training Goals	**201**	**15.5**	**279**	**21.6**	**236**	**18.2**	**423**	**32.7**	**151**	**11.7**	**1290**
Sub Total Organizational Support	**88**	**5.7**	**193**	**12.8**	**183**	**12.1**	**727**	**48.3**	**314**	**20.8**	**1505**
TOTAL FREQUENCIES	**289**	**9.6**	**472**	**15.6**	**419**	**13.9**	**1201**	**39.9**	**629**	**20.9**	**3010**

Source: Nerza Rey 2004

Table # 30: Regression Results Analyzing the Relationship between of Perceived POST EVALUATION ISSUES and the training transfer rate.

	DF	SS	MS	F	Sig**
Regression	14	35.431	2.531	2.431	.004
Residual	200	208.178	1.041		
Total	214	243.609			

R^2 = .145

Adjusted R^2 =.086

Std. Error of the estimate=1.020

** p< .01 Source: Nerza Rey 2004

Table # 30 (Cont.) **Coefficients[a]**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.469	.901		1.630	.105
	Trainees' satisfaction	.266	.167	.106	1.593	.113
	My immediate supervisor evaluated post-training goals accomplished	9.709E-02	.098	.117	.990	.323
	The setting of the action plan (learning contract) with my supervisor drove me to apply the new KSA's on my job	3.979E-02	.073	.051	.543	.588
	The supervisor followed up on my performance to identify new behavioral changes	-.212	.129	-.235	-1.651	.100
	The supervisor followed up on my performance to identify new improvements on the job as a result of training	.112	.125	.125	.896	.371
	I had the opportunity to analyze and discuss the results achieved by the training	7.029E-02	.086	.075	.815	.416
	I had the opportunity to show to top management the training goals achieved by me	3.305E-02	.076	.042	.436	.664
	Resources (equipment, machines, tools, supplies) needed to apply the new KSA's on my job were opportunely provided	-1.993E-02	.084	-.020	-.238	.812
	The necessary time to implement new KSA's on my job was provided	.159	.094	.163	1.685	.094
	The organizational climate around my job boosted me to implement ideas gained from training	-6.464E-02	.096	-.060	-.675	.501
	Assignments and tasks given allow me to use the new KSA's learned	.172	.096	.157	1.797	.074
	My immediate supervisors offered me the necessary support to apply the new KSA's on the job	3.130E-02	.091	.033	.342	.733
	The supervisor provided me criticism, comments, and/or advice regarding how well I have applied what I learned	3.823E-02	.108	.042	.354	.724
	Company policies have reinforced my desire to transfer the new KSA's to the job	-.119	.085	-.110	-1.399	.163

a. Dependent Variable: transfer rate scale

In summary, the results of analyses for the two main research questions related to the pre-training evaluations and post-training evaluations indicate that both variables have a positive influence on the transfer rate.

Research Question 3

What key factors within and outside the training context could influence the rate of training transfer in DANAVEN, and what extra factors could be added to improve its evaluation training system?

The purpose of this question was to determine the perception of participants regarding organizational or individual factors, within and outside the training context affecting the rate of transfer. This information provides insights to improve the current DANAVEN training evaluation system. Therefore, this question was analyzed using both quantitative and qualitative methods in order to compare and contrast results. The questionnaire included three preconceived ranked questions, which were asked on the interviews as well. The qualitative analysis is presented later on this chapter.

Research Question 3A

What are the most important motives for applying new KSA's on the job?

Frequencies Counts were used to analyze the three most important motives for applying new KSA's on the job, using participants' opinions. This question sought to explore those individual factors motivating people to transfer their KSA's on the job. The question gave five preconceived reasons and one open-ended alternative question.

Therefore, participants either were able to chose three reasons from the given list or suggest another one. The results are shown in the Table # 31

Table # 31: Frequencies of Motives for Applying New KSA's

Reasons / Ranking	Improve my Background	Be Promoted to a new Position	Impress my Bosses	Help Organization to achieve Goals	Obtain Favorable Performance Evaluation	Other reason
1	**113**	12	2	77	6	3
2	72	18	9	**84**	25	1
3	21	36	23	23	**85**	16
Null	9	149	181	23	99	195
N	215	215	215	215	215	215

Source: Nerza Rey 2004

The above results indicate that the primary motive was, "To improve my background" This means that at DANAVEN, the most important reason for people applying their KSA's on their jobs is to get better experience and qualifications through the opportunity for practicing learned knowledge. The second ranked motive was the fourth preconceived category "To help the organization achieve expected results" This finding means that people would like to contribute with the organization to achieve its planned goals. Finally, people ranked, in third place in priority, the fifth preconceived category, "To obtain a favorable performance evaluation". In brief, people choose two categories associated with personal motivation and one of them with organizational motivation. In the category "other", people included several interesting comments, some

of them related to personal motives, such as "Improve my performance" "Learn from the team work," "be more efficient" "improve job relationships" "Practice learned knowledge" and "improve my salary." Other comments were associated with organizational motives, such as, "accomplish organizational goals", "improve processes in my area", "share knowledge with my coworkers", "help to my coworkers", "contribute with the team work", "improve the work's environment", "Integration and commitment", "display organizational values", "solvent problems", "Be a model to my subordinates" and "create organizational culture." Most of these comments were ranked at third place for these participants. In brief, the pattern of responses suggests that people apply KSA's learned from training events on the job, firstly to satisfy personal reasons and secondly for organizational motivations.

Research Question 3B

What are the three most important Strengths of DANAVEN's Training Evaluation System?

People ranked the three main strengths as follows. The first strength was the category "result oriented". According to the participants, the major strength of the DANAVEN's Training Evaluation System is its contributive power to achieve results at personal and organizational level. The second selected strength was "It reinforces trainees' commitment to apply the KSA's learned" This perception is important because participants feel that those evaluations applied before and after training help them to encourage their commitment to transfer KSA's from the classroom to the work place. The last selected category was "it generates indicators." Certainly, one of the purposes of this evaluation system is to display different kinds of indicators to

demonstrating training results. In addition, because those results are evaluated to reach corporative DANA awards, it is reasonable that people judge this output as a strength. Finally, regarding the category "other", only two valid opinions were given: "Keep well trained personnel" and "allow trainees to apply their KSA's." Table # 32 shows the pattern of responses of the strengths discussed above.

Table # 32: Frequencies of Perceived Strengths of DANAVEN's Training Evaluation System

Reasons / Ranking	Friendly to use	Measurable	Result oriented	Reinforce trainees' commitment to apply KSA's	Generate indicators	Others
1	29	15	70	53	25	1
2	24	31	51	56	29	0
3	24	34	28	39	57	5
Null	138	135	66	67	104	209
N	215	215	215	215	215	215

Source: Nerza Rey 2004

Research Question 3C

What are the three most important Weaknesses of DANAVEN's Training Evaluation System?

The Weaknesses of the system were ranked as follows. The first and major weakness of the DANAVEN's Training Evaluation System was the category "staff ignores the results" According to this perception, those training results gathered from different pre and post instruments are not divulgated to supervisors, managers, and trainees, a practice

which restricts the purpose of the system. The second ranked weakness was "It requires a lot time." Participants feel that they spend an excessive amount of time to apply and to follow up those pre and post training evaluations. The third ranked category was "it is complicated to use" Finally, regarding the category "other", several additional opinions were given such as: "Methodology is not motivational", "Poor communication", "Not always is it applied", "It is not 100% dynamic", "Weak follow up", "it is not systematic", "Incomplete application of measurement instruments." Additionally, at least 10 people recognized they were not familiarized with the training evaluation system.

The below Table # 33 shows the pattern of responses about weaknesses.

Table # 33 Frequencies of Perceived Weaknesses of DANAVEN's Training Evaluation System

Reasons / Ranking	Complicated to use	Require a lot time	Staff ignores results	Does not add value	Require experts	Others
1	17	74	75	5	8	6
2	19	48	42	29	24	9
3	32	25	25	25	24	17
Null	147	67	74	156	159	183
N	215	215	215	215	215	215

Source: Nerza Rey 2004

Research Question 4

What relationships exist between the trainee's years worked in the company and the positive transfer rate?

Using frequencies counts, the information gathered from question # 31, infers that people work for a long time at DANAVEN. The length of employment with the company was as follow: 60.5% of the people have been working in Danaven during more than five years, and the rest 39.5% of people during less than five years. In fact, people who have worked in Danaven during more than 10 years reached the highest percentage (34%), and the lowest percentage (3.7%) belongs to those who have worked during a short period of less than one year. The results are shown in the Table # 34.

Table # 34: "Years worked in the Company"

	Frequency	Percent	Valid Percent	Cumulative Percent
Less than one year	8	3.7	3.7	3.7
Between 1:00 to 2:00 years	15	7.0	7.0	10.7
Between 2.01 to 5 years	62	28.8	28.8	39.5
Between 5.01 to 10 years	57	26.5	26.5	66.0
More than 10 years	73	34.0	34.0	100.0
Total	215	100.0	100.0	

Source: Nerza Rey 2004

Cross-tabulation and Chi Square Test

Using Cross-tabulation between years worked and transfer rate, as well as the Chi square test; the results demonstrate that the highest transfer rates were reached for people belonging at all ranges of years worked in the company. This tendency is similar along each range on the scale. In addition, the Pearson Chi-square statistic test obtained a value of 24.295 with 16 degree of freedom at .05, which indicates a non-statistically significant relationship between positive transfer rate and years working in the company. The minimum expected count is .37 and the likelihood ratio is 25.319, as a result, there is no association between both variables. (See Table # 35 and 36, Cross-tabulation "Transfer Rate and Years Worked in the Company," and the Chi Square Test "Transfer Rate and Years Worked in the Company" respectively).

Table # 35: Cross-tabulation "Transfer Rate and Years Worked in the Company"

Transfer \ Years	Less than one year	Between 1:00 to 2:00 years	Between 2.01 to 5 years	Between 5.01 to 10 years	More than 10 years	Total
Less than 20%	1	2	2		5	10
Between 20%--39%		3	1	3	6	13
Between 40%--59%	3	1	9	11	14	38
Between 60%--79%	3	4	26	29	25	87
Between 80% --100%	1	5	24	14	23	67
Total	8	15	62	57	73	215

Source: Nerza Rey 2004

Table # 36: Chi-Square Tests "Transfer Rate and Years Worked in the Company"

	Value	df	Asymp. Sig. (2-sided)
The Pearson Chi-Square	24.295[a]	16	.083
Likelihood Ratio	25.319	16	.064
Linear-by-Linear Association	.001	1	.972
N of Valid Cases	215		

a. 15 cells (60.0%) have expected count less than 5. The minimum expected count is .37.

Research Question 5

What relationships exist between the trainee's job position and the positive transfer rate?

Frequencies accounts were used to determine the distribution of participants' job positions in five categories. The categories were as follow: 1. *Managerial* included all top positions making decisions at strategic level. 2. S*upervisory* included all middle positions making decisions at tactic level. 3. *Administrative employees* represented all positions along the company making administrative roles. 4. *Production employees* represented positions directly related to the production process; and 5. *Blue collar* represented all positions doing operative tasks at the lowest organizational level. According to the results, the order of participation per job positions categories were as follow: 45.6 were supervisors, 22.8% were administrative employees, 21.4 production employees, 6.5% managers, and 3.7 were blue collar, like as can be noted in the following Table # 37: Frequencies of Job Position.

Table # 37: Frequencies of "Job Position"

	Frequency	Percent	Valid Percent	Cumulative Percent
Managerial	14	6.5	6.5	6.5
Supervisor	98	45.6	45.6	52.1
Administrative employees	49	22.8	22.8	74.9
Production employees	46	21.4	21.4	96.3
Blue collar	8	3.7	3.7	100.0
Total	215	100.0	100.0	

Source: Nerza Rey 2004

Cross-tabulation and Chi Square Test

Using Cross-tabulation between transfer rate and job position, the results revealed the highest transfer rates reached by people working in all the job position' categories. This tendency is similar along other ranges on the scale. In addition, the The Pearson Chi-square statistic test obtained a value of 18.040 with 16 degree of freedom at .05. The minimum expected count was .37 and the likelihood ratio fount a value to be 20.750, as a result a non-significant relation between positive transfer rate and the job position was found. The results are shown in the Table # 38 Cross-tabulation "Transfer Rate and Years Worked in the Company," and the Table # 39 Chi Square Test "Transfer Rate and Years Worked in the Company" respectively.

Table # 38: Cross-tabulation "Transfer Rate and Job Position"

Job Position / Transfer Rate	Manager	Supervisor	Administ. employees	Production employees	Blue collar	Total
Less than 20%		5		5		10
Between 20%--39%	2	4	4	3		13
Between 40%--59%	2	16	9	10	1	38
Between 60%--79%	8	44	18	12	5	87
Between 80% --100%	2	29	18	16	2	67
Total	14	98	49	46	8	215

Source: Nerza Rey 2004

Table# 39: Chi Square Test "Transfer Rate and Job Position"

	Value	df	Asymp. Sig. (2-sided)
The Pearson Chi-Square	18.040[a]	16	.322
Continuity Correction			
Likelihood Ratio	20.750	16	.188
Linear-by-Linear Association	.038	1	.845
N of Valid Cases	215		

a. 14 cells (56.0%) have expected count less than 5. The minimum expected count is .37.

Research Question 6

What relationship exists between the notification of the training event through a formal invitation and the positive transfer rate?

Results obtained from frequencies counts noted that 73.5% of people received a formal invitation with the respective program content, before the training obtained place. In contrast, 26.5% of people affirmed that they were not notified through those means. Results are displayed in the following Table # 40.

Table # 40: Frequencies of "Formal Invitation"

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	158	73.5	73.5	73.5
No	57	26.5	26.5	100.0
Total	215	100.0	100.0	

Source: Nerza Rey 2004

Cross-tabulation and Chi Square Test

Cross-tabulation results on Table # 41, pointed out that the 115 trainees who scored transfer rates over 60% were notified through a formal invitation. However, the rest of the 39 trainees who did not receive a formal invitation also scored high transfer rates. In addition, the Pearson Chi-square statistic test obtained a value of 4.098 with 4 degree of freedom at .05. This result demonstrates a non-significant relation between positive transfer rate and formal invitation in the company. Since the minimum expected count is 2.65 and the likelihood ratio is 3.888, there is no association between formal invitation and transfer rate

Table # 41: Cross-tabulation "Transfer Rate and Formal Invitation"

Transfer Rate \ Formal Invitation	YES	NO	Total
Less than 20%	8 (5.1%)	2 (3.6%)	10 (4.7%)
Between 20%--39%	7 (4.55%)	6 (8.9%)	13 (6.0%)
Between 40%--59%	28(17.8%)	10(17.9%)	38(17.7%)
Between 60%--79%	62(39.5%)	25(44.6%)	87(40.5%)
Between 80 --100%	53(33.1%)	14(25.0%)	67(31.2%)
Total	158(73.5%)	5(26.5%)	215(100%)

Source: Nerza Rey 2004

Table # 42: Chi Square Test "Transfer Rate and Formal Invitation"

	Value	df	Asymp. Sig. (2-sided)
The Pearson Chi-Square	4.098[a]	4	.393
Continuity Correction			
Likelihood Ratio	3.888	4	.421
Linear-by-Linear Association	.982	1	.322
N of Valid Cases	215		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 2.65.

Research Question 7

What relationships exist between the setting of a learning contract and the positive transfer rate?

Results obtained from frequencies counts noted that 74% of participants did not sign a learning contract. In contrast, 26% of people signed a learning contract after training occurred. Results are displayed in the following Table # 43.

Table # 43: Frequencies of "Learning Contract"

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	56	26.0	26.0	26.0
No	159	74.0	74.0	100.0
Total	215	100.0	100.0	

Source: Nerza Rey 2004

Cross-tabulation and Chi Square Test

The results shown in Table 44 indicate that 85% of respondents scored a transfer rate over 60% when signed learning contract versus 66% that not signed learning contract that performance over 60% their transfer rate. In addition, The Pearson Chi-square statistic test showed a value of 9.171 with 4 degree of freedom at .05. This result demonstrates a no significant relation between positive transfer rate and learning contract. Since the minimum expected count was 2.60 and the likelihood ratio was 10.066, there is no association between both variables.

Table # 44: Cross-tabulation "Transfer Rate and Learning Contract"

Learning Contract / Transfer Rate	YES	NO	Total
Less than20%	2 (3.6%)	8 (5.0%)	10 (4.7%)
Between 20%--39%	1 (1.8%)	12 (7.5%)	13 (6.0%)
Between 40%--59%	5 (8.9%)	33 (20.8%)	38 (17.7%)
Between 60%--79%	24 (42.9%)	63 (39.6%)	87 (40.5%)
Between 80 --100%	24 (42.9%)	43 (27.0%)	67 (31.2%)
Total	59(27.4%)	159(72.6%)	215(100%)

Source: Nerza Rey 2004

Table # 45: Chi-Square Test ""Transfer Rate and Learning Contract"

	Value	df	Asymp. Sig. (2-sided)
The Pearson Chi-Square	9.171[a]	4	.057
Continuity Correction			
Likelihood Ratio	10.066	4	.039
Linear-by-Linear Association	6.897	1	.009
N of Valid Cases	215		

a 2 cells (20.0%) have expected count less than 5. The minimum expected count is 2.60.

Qualitative Analysis

This part of the chapter provides a descriptive account of rich information gleaned from the eight in-depth interviews conducted to explore the third research question, "What key factors within and outside the training context could affect the rate of training transfer in DANAVEN, and what extra factors would be added to improve its evaluation training system?" As stated earlier, this research question was studied using both qualitative and quantitative perspectives. The interviews were aimed at determining those factors that affect the training transfer at DANAVEN and gain insight and understanding to improve the current corporative evaluation system.

Using a within-case study approach, I recaps details of each person interview in the participants' own words to provide a general summary of how they responded to questions regarding areas of interest to this research. The data obtained is extrapolated in a Cross-case study, and compared and contrasted with the information gleaned from the literature review, primarily section two related to the three ranking questions. The within case- study and Cross-case comparison were chosen as central narrative design types, because the case-study allowed I to "evaluate individual client outcomes" (Patton, 1990, p. 99), while the cross-case analysis enabled I to "analyze together answers from different people to common questions or analyze different perspectives on central issues" (Patton, 1990, p. 376).

Lastly, since Patton affirms, "The validity, meaningfulness, and insights generated from qualitative inquiry have more to do with the information-richness of the cases selected and the observational/analytical capabilities of I than with the sample size" (p. 185); an explanation and discussion of the qualitative results is given, as it relates to the third research question, in the light of the researcher's interpretation.

Interview

All interviews were conducted in the natural workplace context. Even though the DANAVEN's offices located inside the factories are conditioned to minimize sounds and vibrations, everybody is familiar with that constant noise. Interviews were conducted privately, with only the interviewee, I and her recorder. Interviewees knew their answers would be recorded and notes would be taken for reflexivity when transcribing and analyzing the data, as suggested by Maxwell (1996). Additionally, all interviewees seemed familiar with the interview process. They showed pleasure in being selected for interviewing, as did the employees participating in the quantitative study.

The qualitative questionnaire posed five primary questions. (See Appendix H).

These questions were designed to have the interviewees describe experiences and behaviors, opinions and values, and to describe feelings and knowledge (Patton, 1990). Adding to the validity of the qualitative questionnaire design, I has, "...some familiarity with the phenomenon and the setting under study...and...strong conceptual interests" (Miles & Huberman, 1994, p. 38). It is to be acknowledged that this researcher headed the team that designed DANAVEN's training evaluation systems five years ago.

In order to analyze the information gathered and report the results, I categorized the original information given by the interviewees into the following eight sections for discussion. A description of each section follows the listing.

1. Danaven's Training Evaluation System' Familiarity (Question #1)
2. Organizational Support (Question # 2)
3. Motives to Apply KSA's (Question # 3)
4. Danaven's Training Philosophy and Transfer Climate (Question # 1)
5. Danaven's Training Needs Assessment (TNA) (Question # 1)

6. Danaven's Training Evaluation Practices (Question # 5)

7. Strengths and Weaknesses (Question # 4 and 5)

8. Suggestions (Question # 5)

Data Categories Definitions

DANAVEN's Training Evaluation System' Familiarity

Danaven's Training Evaluation System encompasses the setting of institutional policies, norms and procedures to systematically collect and analyze relevant data before, during, and after training activities. DANAVEN developed an exclusive system to be used with diverse objectives, according to its organizational needs. The corporative system has been implemented since 1999. This section is designed for examining how well versed and familiar were the eight participants with the Danaven's Training Evaluation System.

Organizational Support

The literature review reveals that organizational support is a vital condition for transfer training from classroom to the job. Trainees who work in a supportive job environment exhibit a greater transfer rate than trainees who work without support. Authors such as Rouiller & Goldsteim, 1993; Tannenbaum & Yukl, 1992, Holton, Bates, Seyler & Carvalho,1997, Kirkpatrick,1998, Baldwin & Ford, 1998 affirm that unless a trainee's work environment supports the use of trained skills on the job, training transfer is unlikely to occur despite the best efforts of training designers to develop and deliver a high-impact training program. Therefore, this section aims at exploring issues such as

opportunities to apply KSA's, supervisory support, and reinforcement training policies at DANAVEN.

Motives for Applying KSA's

There are two main clusters of reasons as to how people apply their KSA's on their job. The first cluster is related to the trainee, and the second one with the environment. The trainee-related cluster includes *motivation and ability* (expectancies, knowledge acquisition, experience). The environment related cluster includes *job and organization* (timing of the opportunity, norms and group pressure, supervisory support, reward systems). In Kirkpatrick's terms (1998), the first cluster is related to the person (intrinsic), while the last one is related to the organization (extrinsic). This section examines the motives for applying KSA's on the job captured from the interviewees' responses.

DANAVEN's Training Philosophy and Transfer Climate

Setting a disciplined training evaluation system is linked to both theoretical and ideological conceptions. Scriven (1991) points out different roles of evaluation, " for ethical terms, evaluation is a key tool in the service of justice... social and business terms, evaluation directs effort where it is most needed, and endorses the new and best way where it is better than the traditional way, intellectual terms, it refines the tools of the thought... and personal terms it provides the only basis for justifiable self-esteem" (p.43). This category's focus is to examine the interviewees' explanations regarding the Danaven's Training Philosophy and consequently its transfer climate.

DANAVEN's Training Needs Assessment (TNA)

Training needs assessment (TNA) deals with finding out what objectives the organization is trying to achieve and whether, and how the employee needs to change to meet these objectives; then there must be a definition of the specific knowledge, skills or attitudes (KSAs) that employees need to acquire. This section explores how the TNA process is managed from the interviewee's comments.

DANAVEN's Training Evaluation Practices

This section looks for discovering how the pre and post training evaluations are managed in DANAVEN. The company uses frequently five different forms to evaluate training results.

Strengths and Weaknesses

In business terms, strengths are positive issues contributing to reaching organizational goals, while weaknesses are recognized as negative issues interfering the reaching of organizational goals. This section identifies the strengths and weaknesses of DANAVEN's training evaluation systems perceived by the interviewees.

Suggestions

This category was included to allow interviewees to express ideas and proposals that may be used to improve the current DANAVEN's training evaluation system. This contribution is invaluable to this research study.

WITHIN-CASE Analysis

Interviewee "D1"

This interview was conducted on September 15, 2004. D1 was a female, quality auditor employee of the corporative office. She is an Engineer and has been working in DANAVEN for five years. At Danaven, one of the most important roles of a quality auditor is to maintain quality system along all DANAVEN companies according to international standards. The company is aware of the importance of this position, so people working in this area are trained continuously. Using a narrative style, the following is a summary of the main points discussed with D1. The interview with D1 lasted exactly thirty-five minutes.

Firstly, I introduced the theme to be discussed, mentioning key points of the DANAVEN's training evaluation system. In doing so, I noted that D1 was pretty well informed about that policy. Using a friendly and sincere discourse, she explained:

> I know there is a policy and some related forms...What I've only used is the evaluation that is done at the end of the course, from which you evaluate the instructor's abilities, what you learned, the materials, and other learning facilities. Afterwards, I have not received any evaluation to know if I applied that knowledge coming from the training in my working area. (Interview transcript translated; September 15, 2004).

Her confession leaded me to inquire for more details looking to know if she applied the new KSA's even though non post training evaluations were not done. Then, she pointed out some interesting comments:

> In my case, the following drivers influence the transfer training process: at organizational level, firstly, the fact that my training needs have been linked to

my direct responsibilities. Ninety percent (90%) of all courses I have attended are directly related to my working area. Then, I have applied 100% of their contents. Another ten percent (10%) of courses deal with informative issues, and are more specific to other working areas. As a result, I have not applied them totally; one applies them in a lower degree. Certainly, the training applicability is related with the activity you realize. Secondly, at personal level, my desire for doing things betters every time, to share and use updated information once you receive it, even though if you have to alter your current job paradigms. (Translated interview transcript; September 15, 2004).

After I knew her arguments, emphasized in previous words, I determined that she is motivated to apply that knowledge gained from training rooms. Moreover, she said,

> Regarding personal growth and development, here or anywhere, I try to look for a way to make things better, so that I can make my job easier, and if I can help other people, I let them know how to do it. I think if you do not practice what you have learned, as time goes on, you forget what you have learned. I try to use it to reinforce my knowledge. Particularly, I feel satisfied if I am able to apply something I have learned. It allows me to reinforce and refresh my knowledge. In addition, one always grabs tips from courses, which are useful to improve continually. One instance is how I evaluate the quality systems of all DANAVEN's companies, and relied on the knowledge I acquired when attending the *quality management audit Systems* course, as well as the experiences revealed from participants of other factories. (Translated interview transcript; September 15, 2004).

I could infer that the training needs assessment (TNA) was well done, and then, the match between the training programs and her job requirements was an important factor influencing training transfer from classroom to the job. In fact, D1 said, "Sometimes when your responsibilities are not well bounded, your training plan will not be well focused. The main idea is that every employee trained can directly apply the new KSA's to his/her specific working area." (Translated interview transcript; September 15, 2004).

D1 expressed her satisfaction with DANAVEN's training policies when stated, "DANA is concerned and eager to train its employees, even though sometimes they become more aware of the indicator, and the hours we have not filled up towards our training goal. But, definitively DANA is interested in training and developing its personnel." (Translated interview transcript; September 15, 2004).

Although D1 recognized DANAVEN efforts for keeping updated all personnel, and evaluating the training outcomes, she felt concern about the lack of post training follow up. Therefore, D1 was generous advising a set of issues to improve the DANAVEN training evaluation system from her experience:

> Undoubtedly, it is time to take advantage of the system's weaknesses. For instance, we should begin incorporating the following improvements:
>
> - Before inviting participants, it is convenient to set up a scheme and send out the program so that participants will be well prepared before the beginning of the course.
> - Participants should be advised through the invitation about the training evaluation policies and their commitment to make an action plan for applying KSA's on the job, after training courses. If done so, personnel will be aware

and may think how they are going to apply what they learned. Providing this kind of information trough the invitation could be an interesting first step for a good beginning.

- Instructors must require participants to take notes, and key points because that information could be useful for applying knowledge in their jobs later.
- When the course is over, besides the final evaluation, the instructor should hand out the learning contract form to be filled up by participants in a preliminary version.
- This learning contract draft version will be analyzed and discussed between the participant and his/her immediate superior, to reach for an agreement about the project characteristics, time, and resources. The boss follows it up until it is all done.
- Use the learning contract form at all organizational levels. I know it is not carried out at all levels.
- Supervisors must be trained and double-trained on the training importance and procedures, from the personnel induction process until post training evaluation methods. So they may positively change their erroneous training attitudes. (Translated interview transcript; September 15, 2004).

Briefly, I can infer that the company supported the achievement of training goals; even though post-training evaluations, like pre-post checking lists or learning contract were not done to this interviewee.

Interviewee "D2"

The interview with "D2", a male engineer with a Master's Degree in Business Administration, obtained on August 17, 2004. His job as a Product Engineer is very

rigorous, and requires a lot of outdoors work, especially on the production process. He belongs to an engineers' team and provided with a large office where they discuss technical issues constantly. That is why I preferred to interview D2 in the Human Resources' office, which offers a lot more privacy.

After I explained to D2 the interview's purpose, we exchanged personal information; I noticed then, he felt relaxed and able to be interviewed. D2 explained that he had been working 9 years in DANAVEN, and he had heard about the evaluation training policy. However, he ignored its details. He affirmed, "I do have seen the evaluation forms when I have been evaluated by my boss" (Translated interview transcript; August 17, 2004). However, D2 job is not concerned with personnel directly, so he has never evaluated any employee in particular.

Talking about why people apply on their jobs, what they learned in the classroom, D2 answered with a serious tone:

> I decided by my own initiative to apply KSA's on my job to obtain benefits. Giving immediate response to the other working areas, I obtained care of them. This I did on my own interest. The company did not order or requested me to do it. My motivation for applying KSA's on the job is to offer a better service that benefit both the organization, and my own benefit, offering a better service, I am a better person. (Translated interview transcript; August 17, 2004).

I could note through D2's comments a little anxiety so I let him to convey his concerns regarding corporate training policies:

> I think training here is considered as a mere fact, as a mere indicator, instead of being a source of knowledge, from where you can solve any circumstance. I

> get curious why almost all training programs are not directly applied in the workplace. The company does not hold a constant interest in obtaining benefits out from training programs. Most employees want to attend courses, but after you take the course, nobody cares to apply it. To me, it is a matter of organizational training conception and corporative culture. In that sense, company cares for trained people. They want to show the trainees' records as an evidence for audit purposes. We are slaves of the quality discourse. We must be sincere. What is the most important matter for the company? (Translated interview transcript; August 17, 2004).

In addition, D2 pointed out that some time ago, he insisted on being permitted to attend a Hiperexel course, but the company appointed him for another course. D2 argued:

> This is wrong because I am who the one knows what is missing. Not all of the training courses that I have attended have had an impact, because not all of them are related to my job. Courses in my specific engineering area are too general. Then I do not find direct application other than taking advantage of its philosophical sense, so I try to improve my personal behavior. I do not demean those general curses, which are needed to cope with the ordinary job. (Translated interview transcript; August 17, 2004).

I was confused about D2 comments, since conflicting opinions were state during the interview. On one side, D2 recognized that technical courses had been useful when doing his ordinary tasks, and they had helped him to improve his skills. However, he stated that training programs attended by him had not have any impact and that courses simply tend to add background to each person. On the other side, he criticized the lack of

control when people are trained; however, he stated that his boss evaluated him after courses.

Looking for more information, I could know from D2's opinions that the lack of stimulation for applying knowledge back relayed on the supervisors' corporate culture. D2 said, "...supervisors are evaluated on the basis of the number of training hours per each subordinate, rather than post training outcome" (Translated interview transcript; August 17, 2004). This is why D2 insisted that training is viewed as an indicator. Since D2 did not have supervisory roles, some of his arguments may be biased. Therefore, they will be considered as such in this study.

In the closing part of the interview, D2 suggested a set of ideas to improve training effectiveness, basically referred to how to create a bridge between the classroom and the workplace, "...Tie the training programs to the practice, for instance, developing real cases applications. If course contents are to be applied on the job, trainees should receive half of the course, and then, he should be sent back to the job, in order to assign him related activities. that allows supervisors to check if the trainee captured the expected knowledge. Also, introducing courses that require previous material preparation should work well." (Translated interview transcript; August 17, 2004).

Interviewee "D3"

A small and basic office located inside the factory was the setting where interview with D3 obtained place on the August 23, 2004. D3 is a Metallurgy technician, who has worked for DANAVEN twice, from 92 to 96 and from 99 to the present date. Justly, his enthusiastic introductory comment was to point out that, "DANAVEN has taken a great leap as far as training is concerned cause. I do have seen that people who take their

courses look a way to apply, what they have learned. At the first stage in DANAVEN, people attended lectures, but did not apply what they had learned. Don't know, I don't know, but I've seen a great difference between old days and nowadays regarding how training is carried out." (Translated interview transcript; August 23, 2004).

Currently, D3 is responsible for supervising the area of steel thermodynamic treatment. Doing this role he is involved with the DANAVEN's training evaluation system in two ways, as a supervisor and as an in-house instructor. He said:

> I have not personally attended that kind of courses where you are evaluated afterwards, but I know the company imparts such courses. In fact, in my area, the people attending courses were required to present a project associated to the course theme, and they must present a percentage of progress periodically. I also know there are other courses in which the same policy is applied...As a metallurgy instructor; I examine my students at the end of the course and then at the workplace. Six months later I quizzed them on a 20 questions form, to check out if they were applying or not on their every day jobs, so that what they learned in theory they can apply to practice. We had to design this program on *steel thermodynamic treatment*, to reinforce metallurgy operators' background, and skills. I imparted it twice, during a 40 hour's course in a week. (Translated interview transcript; August 23, 2004).

Talking about why people apply on the job what they learned in the classroom and the opportunities to apply it in DANAVEN, D3 revealed his outlook:

> In my particular case, what motivates me to transfer is to contribute with the team; in order to achieve improvements in the working process...The last course that I attended on AMEF helped me to solve manufacturing problems.

> Let me explain, I was with a client in the USA, client explicitly told me: "that problem we're having with the *side rail* you have to place in your AMEF", then here I applied what I had learned. It was so, because the course was directly related to my working area. By the way, I have directly detected my training needs. Also, the *Management Grid* was a very good course, which allowed me to identify my management style. I saw what I had to do to become stronger and I learned a lot from its teachings. However, it is a kind of course hard to keep watch over, since its teachings application depend on the trainee's attitude. Particularly, I apply that knowledge everyday, but I think this kind of course is not worth close watching. (Translated interview transcript; August 23, 2004).

Regarding strengths and weaknesses of the training evaluation system, D3 put emphasis on the supervisor's role. D3 pointed out that it should be convenient to chance that point of view, where the supervisor is responsible for watching the training outcomes. He said, "This responsibility should be directly managed by the outsourcing team, or the instructor or I do not know." D3 supported the latter in the following statement:

> We have different kinds of supervisors, some of them are super stars and some are not. Some supervisors are training receptive, others only cares for time/piece accomplishment. Then I think supervisors are not well skilled to check out and evaluate training results. (Translated interview transcript; August 23, 2004).

Although D3 is satisfied with the training evaluation system, he recognizes that some changes should be done to improve the post training follow up effectiveness. In that sense, D3 suggested:

> First, evaluate only courses related to tangible results. We have to identify what kind of courses should be evaluated and the ones should not. Second, work with post training projects whenever is possible. Third, it is very important to relate theory with real-case examples. Otherwise courses become to general and difficult to check up on. Lastly, we should search for a way to empower employees to be self evaluated, but we also have to watch how trainees will report info. Self-evaluation design format must capture objective and valuable info. I do not know if it is a format matter or what, but we have to look for a way to make it a good self-evaluation. Self-evaluation practice can do well to employees of all organizational level, including the lowest blue-collar level. (Translated interview transcript; August 23, 2004).

Finally, D3 expressed his pleasure for taking part of this study and emphasized that, "people are getting more productive training now than 8 years ago". (Translated interview transcript; August 23, 2004).

Interviewee "D4"

D4 was my first interviewee. We met on July 22, 2004, at the D4's Manufacturing Office where the interview obtained place. As a head of the manufacturing area, he is a member of the Board Committee. D4 is a 42-year-old man, mechanical engineer with MBA degree. Really, it was easy for me to establish a favorable rapport

with this interviewee. D4 confessed to be familiar with the DANAVEN's training evaluation system, and all its evaluation formats. Talking in the same training language, D4 revealed his experience along 17 years working in DANAVEN:

> Not 100%, but most of all of the courses that I have taken have been useful along all these years. DANA is a great and efficient university; in fact, we have received a strong education here. I have attended about 100 different courses and I have collected a fabulous experience. If I had not taken those courses, I would be a different kind of professional. I am aware of that personal and professional development acquired here, so I try to reflect it to others... Training quality and quantity being given here is better now; you can see as training programs are well designed, their contents are based on the trainee's real workday needs. Our system looks for motivating trainees from the beginning. For example, the course "Maestro Laboral" has been very successful. Before attending that program employees' expectations are fixed and people know what is expected from them after training. In addition the follow up given by instructors and supervisors to the results is systematic. In this course we cover every phase of the process: previous motivation, good design, follow up outcomes, and interchange training results with others. (Translated interview transcript; July 22, 2004).

Easily, I can note that D4 is a training receptive manager with a very favorable attitude towards training. I support the latter in the following statement:

> Training is a tool to empower any company and employees to be competitive in the business arena. Moreover, training corporate culture is a needed requirement to survive nowadays, otherwise failure is guaranteed. Any effort

done to improve training design, training needs assessment, training evaluation and implementation, must be supported. Training is the food needed for growing as an enterprise, and as a person, otherwise we take a survival risk. Training is absolutely important, that's the key; if not, how can an enterprise like this to become stronger? Our company is not the largest one, but it is complex, it has three working shifts, it has hazardous production processes, and so on...but, how can you reach good results, other than making each person willingly aware? And that is only gotten through education. (Translated interview transcript; July 22, 2004).

Regarding strengths and weaknesses of the training evaluation system, D4 acknowledged that the system is strong concerning the TNA process, but the follow up process to track the results is weak. Here his comments:

> There is a training needs assessment system (TNA) that works well. We are invited to attend a meeting, where our training needs are identified. Then, we say which courses we need for us. As a result, recent courses I've taken have been specific and focused on my job. Also, we can ask for other courses, just requesting them to the HR department. We can do that, without having waited for a new TNA process. I'm sure this TNA has evolved in a positive manner. My concern is the post training evaluations follow up process. It is one of things that are not working well in our evaluating system. More systematic evaluation is required to know, if that training program was useful or it was not. I feel that post training checking is not carried out effectively, but I want to emphasize it does not mean that our training programs are unproductive, people apply back their knowledge. We have to check training results through

> supervisors or managers. They are who perceive trainees behavior. Supervisor is the one person who can really measure an individual change of culture and testify what has happened. (Translated interview transcript; July 22, 2004).

In an insightful concern, D4 advised that, "Managers and supervisors are to be trained, and motivated so that they learn to establish simple and practical training goals, and also learn to give post training feedback to their subordinates. It is not the same to just fill up a format, as it is to be skilled to track a person performance after 2, 3, or 4 months, when this person is applying back knowledge maturely. Indeed, supervisors and managers should reinforce those skills by attending a workshop on DANAVEN's training evaluation system." (Translated interview transcript; July 22, 2004).

Interviewee "D5"

The interview with D5 obtained place on September 15, 2004 in the Boardroom of the smallest DANAVEN's company quarters. As a manufacturing and maintenance manager, he is a busy executive. However, in courteous tone, he expressed his willingness and gladness to be interviewed. After, I explained to D5 the purpose of the interview and reminded to him some introductory tips about the DANAVEN's training evaluation system, D5 went five years ago, when he was hired by DANAVEN. By that time, as a part of his induction program, he attended a short talk about the mentioned system; however, he does not feel familiar with that, as he said, "I ignore if a corporate policy about training effectiveness has been displayed along the company." (Translated interview transcript; September 15, 2004).

Despite his little involvement with the corporative training evaluation, I looked for information about his personal experience as a DANAVEN employee. In response, D5 pointed out:

> Majority of courses I have had to take, have been focused on my working area. Most of the knowledge gained from courses, I have tried to implement them. Moreover, I have achieved to apply them in many cases. However, we have to understand that when we return from the courses, we face a desk full of papers. We find work that has been piled up, so it or multiplies toward others that knowledge...The participants' selection for attending training courses has been right. In fact, except for a few exceptions, all curses I haven taken have been centered on the main job activity. This fact is the key for an effective application. There are some courses, which I have scarcely applied because they are not relevant for my job. For example, that kind of courses that you have to attend to be updated, but you know you will not go deep into. (Translated interview transcript; September 15, 2004).

Talking about why people apply on the job what they learned in the classroom, D5 answered with persuasive attitude, "If I attend a training program, it is obvious that I will try to apply my KSA's to improve my job and my results, make my work more efficient, faster and with better quality. I act so because of self motivation."

During the talk, I could notice that D5 had a particular point of view about the training evaluation topic. For him training is an educational activity, with ample human and social scope. In regard of this point, D5 expressed in reflexive tone the following ideas:

> I wonder why we have to measure training effectiveness in function of and added value. I think there must be some return I do not deny it. I am not saying that it is useless. However, I have seen through out the years that this is a complex task and a cultural organizational problem too. It seems to me that, it is unfair to evaluate the training scope, which is so ample term, so rich, so great, with a pay back focus, in terms of a business, within these four walls, or in view of a finished product, in spite of its social impact...even though, we can keep on trying to do! In addition, It is necessary to straighten up what we call training, because I have noticed that here everything can be considered as training, for instance, a communicative meeting could be regarded as atraining session. I disagree with that, to me training is an activity conducted by experts who impart knowledge in a room with specific educational purposes. (Translated interview transcript; September 15, 2004).

In this way, D5 invited us to analysis the convenience or not of keeping a formal training evaluation system, also he suggested to be more practical than theoretical when imparting training courses.

Interviewee "D6"

Using an informal talking style, I conducted the shortest interview with D6 on September 25, 2004. We met in the D6's office located in the production line surroundings. D6 was busy due to technical troubles that required his presence. After D6 solved the problem, he was able to begin the interview. Briefly, I introduced some key points about the DANAVEN's training evaluation system. Immediately, I could realize

that D6 was familiar with the corporative system, as a trainee and as supervisor. He told me with appropriate domain about some formats used to evaluate training. In addition, he said, "I attended a course where we were evaluated through an investment project." (Translated interview transcript; September 25, 2004).

Quickly, D6 went through his experience like a DANAVEN trainee, his arguments was as follow:

> Company identifies training needs of every employee, and we fill up the TNA formats and identify those areas to be trained in. This contributes to obtain an accurate individual training plan. In my case, all training courses I have received have been related to my job position. Also, all those training programs related to self-esteem and personality issues, which I have attended contribute to improve employees performance, so it help indirectly to perform better.
>
> Since training courses are based on our own weaknesses, their teachings are applicable 100%. It is information that can utilize for our ordinary tasks. However, if you apply or not, what you learned depend on each trainee's will. I think here we have opportunity to apply our knowledge on every day's work, because training programs are related to your job. (Translated interview transcript; September 25, 2004).

Even though D6 was willing to respond my questions, it was obvious to me, that D6 needed to take care of a plant's situation. Therefore, I asked him to make feasible suggestions to improve the training transfer effectiveness. Here is the list of suggestions given by D6:

> To carry out a registration notebook of post training achievements, this works like a self-evaluation report. It should be validated by the immediate supervisor, and the results should be tied to the trainee' performance appraisal. To add up a specific performance appraisal factor related to accomplishment of training evaluation policies.
>
> At the Production area, the company must exhort supervisors to achieve goals beyond fixed production goals. Most supervisors are focused on production goals merely. (Translated interview transcript; September 25, 2004).

Given the troubling circumstances, D6 offered his apologies and asked me to contact him in another opportunity for more information. D6 completed his interview pointing out vehemently, "This Company provides a real true support to realize whenever training project through thee Special Programs' unit." (Translated interview transcript; September 25, 2004).

Interviewee "D7"

I met D7 on July 22, 2004 in a meeting room located in the interior of the plant. D7 is a female engineer who works in DANAVEN since five years. Her currently job position is as quality coordinator. She was curious about the interview purpose and her role in the study. My explanation allowed her to be confident to sharing with me, during forty minutes, her experiences regarding the DANAVEN's training evaluation system and her point of view related training. At the beginning, she commented:

> I always receive opportune information about those training events planned and discussed to me. The outsourcing team cares for sending out to

me invitations and courses contents opportunely. At the same time, my bosses also informed me about them. Then when I have attended them, I became familiar with the training courses contents, which are related to my job. (Translated interview transcript; July 22, 2004).

Talking about why people apply on the job what they learned in the classroom and the opportunities to apply it in DANAVEN, D7 stated:

> To me, one of the motivations to transfer knowledge from the training to my job is the desire for experimenting what I have learned. You have to go through each thing learned, and experience it. Everybody can receive an excellent training program but, if there is no evidence, testimonies, examples, practice, you can waste it. In my particular case, I learn very much when I apply what I have learned; I just feel I reinforce it. Evidently, the desire for utilizing KSA's learned has much to do firstly with your personal benefit, and then I feel motivated for doing things to benefit the organization, for example, I coordinated a high performance task group. In doing so, I reinforced my KSA's while the company gained synergy. (Translated interview transcript; July 22, 2004).

The previous arguments allowed me to perceive that D7 applies a win-win strategy in her personal life. D7 comments regarding training applications were:

> I have applied in my job all those things learned from training courses. However, in other cases, people become trained but they do not take advantage of their new knowledge, at least you do not see any results. In my case for example, when our audit team was trained, we were requested to apply back that knowledge. To me that instruction was clear, like a mandatory

matter. Thus, we made our best endeavors for implementing each thing learned. Our immediate superiors and corporate auditors checked us out, and they were satisfied with the results. Other training course like *quality audit* was very beneficial to me because I have had the chance to apply it as a part of my responsibilities. However, if people from other departments attend this course, even thought they also are part of the quality system, they probably are not very interested in this theme because it is not their specific work field. I can say that I have always received a lot support from the company, its managers and my bosses, to apply my new KSA's on my workplace without any problem. Perhaps the only shortcoming is 'time' due to a little big heavy workload, however, time administration might depend more on me than on the system. (Translated interview transcript; July 22, 2004).

In convincing tone D7 said, "The management training conception is too important. For instance, I remember my former boss who held a short view regarding training, so the result was a low training activity in our working area. In contrast, my current boss cares a lot about training; in fact, he noticed that our team had high potential, so he sent us to take the DANA SUPERVISOR's PROGRAM." (Translated interview transcript; July 22, 2004). Talking about weaknesses of the system, D7 expressed the following concerns:

> Setting up goals is a very important matter and I believe there we have a weak point. Perhaps, the learning objectives have not been well fixed for all courses. Nobody could wish to take a course ignoring if it will suit his job field, and no one will clarify that fact. To me the *Maestro Laboral* course is a good example regarding how training programs should be addressed. Justly, this curse has

> given good results because it states precise objectives to be reached previously. However, you would have to ask if the object is to reach a specific learning goal, for example 'operative discipline' or an ROI, which simply is a tangible benefit ... people can perceive a double intention, a double sense message... the company must be aligned and coherent with the DANAVEN's philosophy regarding personnel development policies. (Translated interview transcript; July 22, 2004).

I could note from D7's comments that she is satisfied with some points of the training system such as the TNA process, but she disagrees on how the company does not take advantage of training investment. Here, her words:

> Regarding the training needs assessment (TNA), it was a participative process, I filled up a TNA form, I entered my specific interest areas, I discussed it with my boss and we made some adjustments on a mutual agreement basis. However, there are some people wanting to take courses, which are not within their true competence. If so, because within our organization is easy to become an "orchestra man " Then, it is important to identify the benefits anyone can give, and address the individual training plan towards areas where you really need to apply them. In this way we may avoid to waste time and money. Also, I think that all the training programs being evaluated through a project to solve any "X" indoor situation have to provide a result but I do not perceive it so, honestly... Post training results must be requested, people know they have acquired a new knowledge, but if no one asks for it, they do not apply it. (Translated interview transcript; July 22, 2004).

Finally, D7 advised, "...Company has to identify what training benefits each employee can accomplish, and address training toward those areas where trainees are able to add some post training value. In that way, the company avoids unproductive training programs." (Translated interview transcript; July 22, 2004).

Interviewee "D8"

The interview with D8 obtained place on September 25, 2004 in the small D8's office located in the production area. As a manufacturing supervisor, he is responsible for achieving production goals with quality standards. After, I explained to D8 the interview's purpose and reminded him of some introductory tips about the DANAVEN's training evaluation system, I could observe that D8 was familiar with the corporate system since he evaluates his personnel, he said:

> "I understand there are two kinds of instruments for evaluation purposes: Check lists, and learning contracts. However, I do not think that those evaluations are carried out for all courses imparted". (Translated interview transcript; September 25, 2004).

When I asked him about why people apply on the job what they learn in the classroom and the opportunities to apply it in DANAVEN, D7 stated:

> In my particular case, what motivates me to apply KSA's is to learn how to do it, and to learn practical cases in my job, so that I can identify any particular situation in my job, and be able to handle it utilizing what I've
>
> learned from the training programs I've received. Personally, all courses I have had the chance to attend have been directly inherent with my responsibilities and they have been helpful. These courses taught me things I

need to convey to be able to assure the quality system. Likewise, in the case of my subordinate fellows, I would say they have applied their KSA's on the job in a high percentage basis. It is so because they attended courses such as, audit systems, measurement instruments techniques, and something like that, which are directly involved with their daily tasks. By the way, I have directly suggested what courses I need to attend in order to close training gaps...I have received support from the organization to apply knowledge gained from training courses. (Translated interview transcript; September 25, 2004).

In addition, D8 expressed his concern regarding the lack of checking out evaluation ystem polices, he said,

> After courses are given, you have to make sure to validate the degree of trainees' knowledge application. There is no instance where follow up procedure is carried, even though I ignore if anyone is responsible or somebody else can be held responsible. For instance, the indicator ROTI (return on training investment) is not presently functioning and that can affect audit results. I think we should go back to ROTI indicator to make sure that the post training activities will be well tracked. Other weak point resides in the accomplishment of the individual training plans. For example, I have missed some training courses, because of multiple responsibilities,
>
> and little time. Likewise, personnel under my supervision missed courses due to organizational reason related to schedules, night shifts, workload, or things like that. In fact, they complained about lack of opportunities to attend training courses. I recognize it is hard to make sure everyone gets the same amount of

training but we can try to. Otherwise, training opportunities might benefit only few people.

Finally, D8 suggested, developing training projects as another way to ensure that trainees apply their KSA's back. A concrete project should be made in order to obtain a practical applicable result on the working area.

CROSS-CASE Analysis

This section includes the collective descriptions of 8 trainees interviewed. The words (data) of the participants were Crosschecked, using triangulation to determine if there was "agreement" among sources, hence "corroboration" (Johnson, 1997, p. 161). cross-case analysis is "used to deepen understanding and explanation" (Miles and Huberman, 1994).

During a four-week period, between October 5, and November 3, 2004, I reviewed the interview transcripts with each participant to ensure the accuracy of the transcript, before those transcripts were translated from Spanish to English. I also allowed the participants to review the transcripts of each other and found that there was agreement among the 8 participants regarding the issues brought forth in this study.

DANAVEN's Training Evaluation System' Familiarity

In general the interviewees were familiar with the Danaven's Training Evaluation System. The degree of information was more ample from those four interviewees who were supervisors, instructors and/or trainees. The other three interviewees were less informed because they do not have subordinates; then they only knew some evaluation

formats but they ignored details about the system as a whole. Only one interviewee stated that he was not too familiar with the corporate system. The literature review suggests that a system is more likely to be successful when it is divulgated appropriately within users. In training terms Kraiger (2002) says, "Know your audience and ensure that measures of training will provide the evidence that is the most persuasive given their preferences for receiving information" (p.372).

Table # 46 : Interviewees familiarity with DANAVEN's training evaluation system

Interviewee Code	Comments	Familiarity Degree
D1	"...I know there is a policy and some related forms.."	+
D2	"...I've heard about evaluation policy, but I ignore its details...I do have seen the evaluation forms when being evaluated by my boss..."	+
D3	"...I'm familiar with that kind of policy..."	++
D4	"...I'm familiar with these evaluation formats, I know them..."	++
D5	"...I ignore if a corporate policy about training effectiveness has been displayed along the company..."	-
D6	"...I know there are some formats used to evaluate training..."	++
D7	"...my bosses evaluate my post training goals trough action plans..."	+
D8	"...I understand there are two kinds of instruments for training evaluation purposes: Check lists, and learning contracts. ..."	++

++ = strong familiar, + = familiar, - = non familiar

Organizational Support

In this study, the organizational support is examined in the light of three sub-factors: opportunity to apply new KSA's on the job, supervisory support, and reinforcement training policies. Table # 48 captures some testimonies of the participants in describing organizational support in DANAVEN. Analyzing those testimonies, it is possible to notice that all of them had diverse opportunities to apply KSA's on the workplace, especially because courses were directly inherent with their responsibilities. This common patron of response is coherent with the literature review found, for instance, authors like Byham, Adams, & Kiggins, 1976; Mosel, 1957; Noe, 1999, agree that the new knowledge, skills, and attitudes must be relevant to the job and positively reinforced.

Even though nobody commented about reinforcement policies, it is easy to notice that all participants were able to apply their new KSA's when courses were centered on the main job activity, and the application was lower when they attended courses not directly related to their responsibilities. As a result, this researcher ratifies the importance of including this critical factor as a part of the pre and post training evaluations.

Table # 47: Organizational Support

code	Testimonies of Organizational Support	Type of support
D1	...my training needs have been linked to my direct responsibilities. A ninety percent (90%) of all courses I have applied 100%... ...courses more specific to other working areas, one applies them in a lower degree... Usually, I get the resources to apply KSA's on the job	Positive
D2	...Almost all training programs are not directly applied in the workplace... Not all of the training courses that I have attended have had an impact, because not all of them are related to my job...general courses I do not find direct application...technical courses have been useful...	Moderate
D3	...I do have seen that people who take their courses look for a way to apply what they have learned...I applied what I had learned because the course was directly related to my working area... I utilized its teachings to solve problems with a client in the USA... ....Particularly, I apply that knowledge everyday, but I think this kind of course is not worth close watching...	Positive
D4	...most of all of the courses that I have taken have been useful along all these years. ...I have attended about 100 different courses and I have collected a fabulous experience. ...I am aware of that personal and professional development acquired here... ...people apply back their knowledge.	Positive
D5	...Majority of courses I have had to take have been focused on my working area. ...I have tried to implement them. Moreover, I have achieved to apply them in many cases.	Positive
	...all courses I have taken have been centered on the main job activity. This fact is the key for an effective application. There are some courses, which I have scarcely applied because they are not relevant for my job.	moderate
D6	...courses based on our own weaknesses their teachings are 100% applicable. It is information that can be utilized for our normal performance...all training courses I have received have been related to my job position...training programs related to self-esteem and personality issues help indirectly to do better the jobs. ...we have opportunity to apply our knowledge on every day's work	Positive
D7	...I have applied in my job all those teachings learned from training courses. I have had the chance to apply it as a part of my responsibilities. ...I have always received a lot support from the company, its managers and my bosses...my current boss cares a lot about training	Positive
	...shortcoming is 'time' due to a little big heavy workload, time administration might depend more on me than on the system.	Moderate
D8	...all courses I have had attended have been directly inherent to my responsibilities and they have been helpful. ...courses taught me things I need to convey to be able to.../ ...my subordinate fellows, have applied their KSA's on the job in a high percentage basis..., which are directly involved with their daily tasks. ...I have received support from the organization to apply knowledge gained from training courses.	Positive

Source: Nerza Rey 2004

Motivation for Applying KSA's on the Job

Authors as Elangovan & Karakowsky (1999), and Tracey, Hinkin, Tannenbaum, & Mathieu (2001), have showed that transfer effectiveness is much more firmly rooted in trainee factors (motivation and ability) and environmental factors (job-related and organization-related) than in design or learning factors (instructional methods), which is not the object of this study. Trainee-related cluster includes *motivation, and ability* (expectancies, knowledge acquisition, experience). Environment related cluster includes *job, and organization* (timing of the opportunity, norms and group pressure, supervisory support, reward systems).

The Table # 48 captures the reasons that participants pointed out for applying KSA's on the job, they are sorted in Kirkpatrick's terms (1998): *Intrinsic* drivers refers to trainee-related factors and *extrinsic* drivers refers to environmental-related ones. As observed, in this study, intrinsic factors were the most common patron of the participants' responses rather than extrinsic factors. It means that participants firstly look for acquiring knowledge and experience to improve their performance and then, if the organization offers them opportunities for transferability of newly trained skills, they take advantage of it.

The patron of responses found to corroborate that transfer takes place when the learner recognize opportunities for transfer (Prawat, 1989), and the learner possesses the motivation to take advantage of these opportunities (Pea, 1988). In addition, most of interviewees stated that they were motivated for applying their KSA's by own interest and will. Since the study of Tziner and Haccoun (1991) found that subjects with high internal locus of control exhibited a greater degree of training transfer than those with a more external locus of control; this researcher takes it as a caveat for including locus of control factor as a part of the pre-training evaluations.

Table # 48: Motivation for Applying KSA's on the Job

Interviewee Code	Comments	Type of motivation
D1	...Personal growth and development, here or anywhere place, I try to look for away to make things better, so that I can do my job easier, ...help other people, ... practice ...reinforce my knowledge...improve continually. ...nobody request me to make training applications, I do that for my own will	Intrinsic
D2	...offer a better service to benefit both the organization and my own benefit, offering a better service, I am a better person ...improve my personal behavior...obtain benefits... giving immediate response to the other working areas assisted by me... ... I decided by own initiative to apply KSA's on my job	Intrinsic/ extrinsic
D3	...Contribute with the team, in order to achieve improvements in the working process...	extrinsic
D4	...be competitive.. for growing as an enterprise or a person... to survive	Intrinsic/ Extrinsic
D5	... Improve my job and outputs, make my work more efficient, faster and with better quality... multiply that knowledge... ... I act so because self motivation..	Intrinsic
D6	...overcome my personal weaknesses... ... if you apply or not what you learned dependent on every trainee's will.	Intrinsic
D7	...for experimenting... Practice or you can loose it.... ...personal benefit, and then I feel motivated to doing things to benefit the organization...	Intrinsic
D8	...learn practical working cases in my job, so that I can identify any particular job situation and be able to handle it...	Intrinsic

Source: Nerza Rey 2004

DANAVEN's Training Philosophy and Workplace Climate

One branch of training transfer research recognizes the important connection between a positive workplace climate and the training outcomes (Hoekstra, Erik, 2003). The transfer climate includes situations and actions that convey the support of management for the transfer of training as well as the value the organization places on successful transfer of training (Rouiller & Goldstein, 1993, cited by Kraiger, 2002). Behind a supportive place for training transfer, there is a philosophical conception about training. Usually, organizations supporting training transfer exhibit an encouraging training corporate culture and favorable climate. Holton, Bates, Seyler & Carvalho (1997) studied workplace transfer climate and found that supervisor support, resistance to change, opportunity to use new skills, and perceived personal outcomes all affected the transferability of newly trained skills. In addition, Mathieu, Tannenbaum, & Salas (1992) found that perceptions about situational constraints in the workplace had a negative effect on pre-training motivation, which in turn influenced training effectiveness.

The Table # 49 captures the participants' perceptions about Danaven's training philosophy. Most comments suggest that DANAVEN imparts training for all employees; D4 for instance, defines it like a "great and efficient university," which is coherent with its stated corporate principles. However, since each DANAVEN company must accomplish determined training goals; some participants (D1, D2, D5, and D7) criticize the DANAVEN's criterion to evaluate training goals based on training hours imparted, rather than the quality of training outcomes. Those findings confirm the importance of including pre and post training evaluations to monitor the workplace climate and improve training transfer effectiveness. In Kraiger's (2002) terms, "Where there is a perceived lack of management support for the transfer of training or a perception that the transfer of

training is of little value to the organization, there is little incentive for trainees to invest the effort required to succeed in training" (p.273).

Table # 49: Danaven's Training Philosophy

Code	Perceptions	Type of Climate
D1	...Company's concern is profit, the pay back of the courses... DANA is concerned and eager to train its employees, even though sometimes they become more aware of the indicator, and the hours we have not filled up toward our training goal... DANA does have interest for training and developing their personnel...	Supportive
D2	...company cares for having trained people...show the trainees' records like evidences for audit purposes...Training here is a mere indicator...The company does not hold a constant interest in obtaining benefits out from training programs.	Less supportive
D3	...DANAVEN has taken a great leap as far as training is concerned cause. I have seen a great difference between before and nowadays regarding how training is carried out...	Supportive
D4	...DANA is a great and efficient university... We have perceived a strong education here...	Supportive
D5	... Training effectiveness in function of added value. .. a pay back focus, in terms of a business, within these four walls, or in view of a finished product, in spite of its social impact...	Less Supportive
D6	... This company provides a real true support to realize whenever training project through the Special Programs' unit... Company should exhort supervisors to achieve goals beyond fixed production goals...	Supportive
D7	...The management training conception is too important...my current boss cares a lot about training... ...the object is to reach a specific learning ...or an ROI, a simply tangible benefit ... people can perceived a double intention, a double sense message	Supportive
D8	...I recognize it is hard to make sure everyone get the same amount training ... otherwise; training opportunities might benefit only few people...	Supportive

Source: Nerza Rey 2004

Training Needs Assessment (TNA)

The training needs assessment is recognized as a key factor having higher impact on training results. In fact, "recent research has shown that the use of TNA methods is positively related to training effectiveness (Bennett, 1995, cited by Kraiger, 2002). TNA allows practitioners to discover what kind of training everyone needs, which in turn influence training transfer due to its relevance to the job. In DANAVEN, TNA is seen as a strategic issue aligned with organizational needs, job requirements, and personal expectations.

The Table # 50 grasps the participants' attitude regarding the training needs assessment as carried in DANAVEN. Only a single participant exhibited non-satisfaction with the TNA and his respective individual training plan. His comment claims for taking into account his opinions. The rest of all participants were satisfied with the TNA process. D1 and D7 advised that DANAVEN's employees work in a changing and dynamic environment, where people assume new responsibilities frequently. Consequently, it is difficult to get training plans well focused. In regards of this point, Kraiger, (2002) suggests, "organizations should perform a capability assessment for any important chance or initiative" (p. 37).

Most of the respondents recognized that they participated directly identifying their training needs and their individual training plans, this they perceived like a good practice. This patron of response is congruent with Baldwin & Magjuka's findings (1991). They found that participants who attended courses chosen by themselves had a higher level of motivation for learning prior to entering the training than those who were not provided with the opportunity to take choices or those who made a choice they did not receive.

Given the strong TNA impact on training transfer, Hesketh, (1997) did an interesting proposal. The author suggested to replace the TNA with TTNA, a transfer of training needs analysis that identifies organizational constraints to the transfer of training.

As a result, this researcher confirms the relevance of including TNA as a vital factor being part of the pre training evaluations. In Danaven, the pertinence of TNA is evaluated through the format termed, Pre-Checking Validity.

Table # 50: Training Needs Assessment (TNA)

Code	Testimonies	Attitude
D1	...The TNA process works very well, event though sometimes when your responsibilities are not well bounded, your training plan should not be well focused...	positive
D2	... I am who the one knows what is missing...	negative
D3	...I have directly detected my training needs...	positive
D4	....the system is strong concerning the TNA process... we are invited to attend a meeting, where our training needs are identified... ...There is a training needs assessment system (TNA) that works well... recent courses I have taken have been specific and focused on my job...	positive
D5	...The participants' selection for attending training courses has been right...	positive
D6	...Company identifies training needs of every employee, we fill up the TNA formats and identify those areas to be trained. This contributes to obtain an accurate individual training plan...	positive
D7	...Training needs assessment (TNA), it was participative process, I filled up a TNA form, I entered my specific interest areas, I discussed it with my boss and we made some adjustments on a mutual agreement basis...in our organization is easy to become an "orchestra man" Then, it is important to identify the benefits anyone can give, and address the individual training plan towards areas where you really need to apply them to add some post training value.	positive
D8	...I have directly suggested what courses I need to attend...	positive

Source: Nerza Rey 2004

DANAVEN's Training Evaluations Practices

The researcher was able to extrapolate from real interviewees' experiences an approach about past and current practices used during the last years to evaluate training outcomes. The interviewees' experiences were classified with a symbol (+) that means a good practice or a symbol (–) that means a bad practice. Likewise, each comment was associated with the type of training evaluations being referred. *Pre* was used to refer experiences occurred before training obtained place and *Post* was used for post training situations.

Analyzing 17 different experiences regarding DANAVEN's Training Evaluations Practices, the interviewees identified 12 good practices against five practices feasible to be improved, as it can be observed on Table # 51. Almost all of them refer to post training practices, which should be understood like a better managing of pre evaluations.

This pattern of response is congruent with other comments pointed out earlier, which emphasized lack of post-training follow up and supervisory support. In addition, since the training decision makers in DANAVEN decided transitorily to stop the implementation of some post training evaluations until the whole system could be improved, those responses should be biased. Even though this particular situation, "organizations with a culture of strong measurement, may not only be receptive to more field-based measurement but may have stronger expectations of the quality of the design and the job relevance of measures" (Krieger, 2002, p.371). Certainly, this researcher believes that DANAVEN has developed a strong culture for evaluating training results and consequently its employees have high expectations regarding this issue.

Table # 51: Training Evaluations Practices

Code	Comments	Attitude & Evaluation's Type
D1	...I've only used the evaluation done at the end of the course, I have not received any evaluation to know if I applied that knowledge coming from the training in my working area. I have asked what happen with the learning contract.	+ Pre - Post
D2	The company did not order or requested me to do it. I've had been evaluated by my boss After course I filled up a learning contract with my boss, but then nobody asked me about results	- post + Post + Post - Post
D3	in my area, the people attending courses were required to present a project associated to the course theme, and they must present a percentage of progress periodically. As a metallurgy instructor; I examine my students at the end of the course and in the workplace. Six months later I quizzed them on a 20 questions form, to check out if they were applying or not on their every day jobs, evaluate only courses related to tangible results.	+ Post + Post
D4	the course "Maestro Laboral" has been very successful. Before attending that program employees' expectations are fixed and people know what is expected from them after training. In addition the follow up given by instructors and supervisors to the results is systematic. I feel that post training checking is not carried out effectively, but I want to **emphasize** it does not mean that our training programs are unproductive	+ Pre/Post - Post + Post
D5	...you store up knowledge received...You use it at the right opportunity you have to apply it...when one detects the opportunity, one applies it...	- Post
D6	"I attended a course where we were evaluated through an investment project."	+ Post
D7	I always receive opportune information about those training events planned and discussed to me. The outsourcing team cares for sending out to me invitations and courses contents opportunely. my bosses also informed me about them. I attended them, I am familiar with the training courses contents, which are related to my job. we were requested to apply back that knowledge...like a mandatory matter... we made our best endeavors for implement each thing learned...immediate superiors and corporate auditors checked us, and they were satisfied with the results. a project to solve any "X" indoor situation have to provide a result but I do not perceive it so, honestly	+ Pre + Post -Post
D8	I do not think that those evaluations are carried out for all courses imparted.. the indicator ROTI (return on training investment) is not presently functioning go back to ROTI indicator to make sure that the post training activities will be well tracked.	- Post

Source: Nerza Rey 2004

Strengths and Weaknesses

While discovering strengths and weakness of the DANAVEN's evaluation training system, I looked for identifying *extra factors* that could be added to improve the corporate system of training evaluation. In Kraiger's (2002) words, "The key to managing the transfer process is to make contingency plans specifying all barriers and setbacks than can be anticipated and the appropriate course of action to follow. Training that does not prepare trainees to deal with the post-training environment is quite likely to be ineffective" (p. 295).

The Table # 52 shows the strengths and weakness that the respondents pointed out to be improved or reinforced. In general, all interviewees identified two salient weaknesses affecting the effectiveness of the DANAVEN's evaluation training system. The first weakness refers to the lack of post training follow up and the second refers to lack of supervisor support. Both weaknesses mentioned are organizational-related factors, rather than trainees-related ones. Likewise, both weaknesses refer to post training evaluations.

Regarding strengths, the comments talk about an organizational climate where trainees have opportunity to apply back what they learned. As it was pointed out by one respondent earlier, DANAVEN allows trainees to apply back their KSA's, but the follow up procedure of training outcomes is a weak point.

Since follow up transfer outcomes after training and support from supervisors have strong impact on training transfer; these findings will be considered as opportunities to make current DANAVEN system stronger.

Table # 52: Strengths and Weaknesses

Code	Weaknesses	strengths
D1	...The post training follow up is absent... Supervisors must be trained and double-trained regarding the training...	...Post training follow up should be improved...
D2	...Post- training checking is a weak part of the company's policy... there are not stimulated policies... supervisors are evaluated on the basis of the number of training hours per each subordinate, rather than post training outcome...	...company cares for having trained people
D3	...supervisors are not skilled to check out and evaluate training results... Some supervisors are training receptive, others only cares for time/piece accomplishment.	...people are getting more productive training now than 8 years ago...
D4	... supervisors are to be trained, and motivated ...They should reinforce their skills and knowledge about DANAVEN's training evaluation system. ...post training follow up process... is one of things that are not working well in our evaluating system. More systematic evaluation is required to know, if that training program was useful or it was not...	Training quality and quantity being given here is better now... ...contents are based on the trainee's real workday needs...
D5	... more theoretical than practical...pay back focus...	participants' selection for attending training courses has been right
D6	....Most supervisors are focused on production goals merely.	opportunity to apply our knowledge on every day's work
D7	....Setting up goals is a weakness...	...chance to apply... ...opportune information about those training events planned and discussed to me.
D8	....Evaluation system lacks formal checking polices...There's no instance where follow up procedure is carried,	... ROTI indicator to make sure that the post training activities will be well tracked...

Source: Nerza Rey 2004

Suggestions to Improve DANAVEN's Training Evaluation System

The Table #53 shows a succinct list of those suggestions given by the respondents to improve the DANAVEN's training evaluation system, which were sorted according the type of training factor being associated. In that sense, 17 suggestions registered were sorted as follow: Pre-evaluations: five (5) suggestions refer especially to improvements before training is attended. They included pre-motivation, TNA, training goals setting, and content design respectively.

Post-evaluations: 12 suggestions refer to improvements after training occurs, regarding post training follow up, supervisory support, and achievement of training goals through learning contract, project assignments, self-evaluations, and performance appraisal.

These recommendations will be considered as opportunities to become stronger the current DANAVEN system.

Table # 53: Suggestions/ Recommendations to improve DANAVEN's Training Evaluation System

CODE	Suggestions	Training factor
D1	• ... Before...set up a scheme and send out the program participants ...	Pre-motivation
	• ...commitment to make an action plan...after training courses...the instructor should give the learning contract form to be filled up by participants in preliminary version...	Achievement of post-training goals through learning contract
	• ...Supervisors must be trained and double-trained regarding the training importance and procedures...	Supervisory support
D2	• ...Tie the training programs to the practice, for instance, developing real cases applications...courses that require previous material preparation	Content design
D3	• ...work with post training projects whenever is possible...	Achievement of training goals through assignment projects
	• ...relate theory to real-case examples...	Content design
	• ...empower employees to be self evaluated...	Achievement of training goals through self-evaluation
	• ....evaluate only courses related to tangible results...	Tangible vs. intangible outcome
D4	• ...track a person performance after 2, 3, or 4 months, when this person is applying back knowledge maturely...	Post training follow
D5	• ...be more practical than theoretical when imparting training courses.	Content design
D6	• ...a registration notebook of post training achievements like a self-evaluation report... validated by the immediately supervisor...	Achievement of post-training goals through self-evaluation
	• ...the achieved results be tied to the trainee' performance appraisal.	Achievement of post-training goals through performance appraisal.
D7	• ...Setting up goals ...	Training goals setting
	• ...Post training results must be requested, people know they have acquired a new knowledge, but if no one asks for it, they do not apply it...	Post training follow
	• ...address training toward those areas where trainees are able to add some post training value.	TNA
D8	• ...make sure to validate the degree of trainees' knowledge application...	Post training follow
	• ...the indicator ROTI (return on training investment) is not presently functioning go back to ROTI indicator to make sure that the post training activities will be well tracked.	Achievement of post-training goals through ROTI

Source: Nerza Rey 2004

Summary

This chapter has provided the answers to the research questions in terms of statistical relationships and the language of the participants. All research questions were analyzed with statistical techniques for descriptive and inferential analysis. Only research question three included a qualitative analysis based on within- case study and Cross- case analysis. This chapter found relevant findings; the implications and contributions will be discussed fully in the next one. In chapter Five, I will discuss the findings, conclusions and implications.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this chapter is three-fold: to discuss the research findings and conclusions, to provide recommendations for practice in the training field, and provide recommendations for future research.

Summary of Study Conclusions

In general, the findings of the study allow interesting conclusions for training researchers and practitioners who seek to use training evaluations and training transfer to have a positive impact on organizational success. An outline regarding the most significant findings of this study is as follow:

- Pre-training evaluations did have a positive and statistically significant relationship with training transfer ($p=.026<.05$).
- Within pre-training evaluations, Training Needs based on Organizational Objectives had a positive relationship with training transfer, but the relationship was not statistically significant ($p=.083<.05$). However, Training Goals Setting did have a positive and statistically significant relationship with training transfer ($p=.019<.05$)
- Post training evaluations did have a positive and statistically significant relationship with training transfer ($p=.004<.05$).
- Within post-training evaluations, Achievement Training Goals did have a positive and statistically significant relationship with training transfer ($p=.004<.05$). Likewise, Organizational support did have a positive and statistically significant relationship with training transfer ($p=.001<.05$)

- The three most important motives for applying KSA's from the classroom to the workplace determined by this study were, in hierarchical order, as follow: improve the background (intrinsic), help the organization to achieve expected results (extrinsic), and obtain a favorable performance evaluation (intrinsic).
- The three most important strengths of DANAVEN's training evaluation systems were in hierarchical order as follow: the system is result oriented, the system reinforces trainees' commitment to apply the KSA's learned, and the system generates training indicators.
- The three more important weaknesses of DANAVEN's training evaluation systems were in hierarchical order as follow: the staff ignores the results; the evaluation system requires a lot time to apply and to follow up pre and post training evaluations; and the evaluation system is complicated to use.

Summary of Findings and Conclusions Related to Research Question 1

What is the relationship among measures of transfer training rate and the use of pre-training evaluations?

Analysis of the data shows that the use of pre-training evaluations is positively related to the transfer training rate. This finding should be well considered by the HR practitioners and training decision makers due to its practical implications. While a comprehensive discussion of the convenience to implement training evaluations appears later in the chapter under the general findings and implications section, it is clear that in this study, the pre-training evaluations tracking factors such as, training preparation, content information, freedom to choose, personal expectations, background self-confidence, training needs, and previous training goals setting; have a positive effect on the training transfer rate.

Examining separately the relationship between training transfer rate and each set of factors tracked before trainees attend their programs, more detailed findings can be observed. The main findings are described in the next paragraphs in order to share a better picture of the pre-training evaluations and its impact on training transfer rate.

When the set of *pre-motivational factors to attend training programs* were analyzed separately, no significant relation was observed. The pre-motivational factors tracked through the DANAVEN's pre-evaluation instrument were: training preparation, content information, freedom to choose, personal expectations, and background self-confidence. The pattern of responses regarding the set of pre-motivational factors demonstrated a favorable participants' perception of 73%. Likewise, information gathered from qualitative analysis added strength to this conclusion. Indeed, most surveyed agreed that DANAVEN tracked appropriately those mentioned factors.

The lack of significant effects for pre-motivational factors was unexpected and counter intuitive. Supportive literature review recognizes the impact of pre-motivation factors on the training transfer: Baldwin & Magjuka (1991) demonstrated the impact of trainees' choice of training on motivation and learning; Hicks & Klimoski (1987) found that trainees who perceived they had a high degree of freedom to attend training reported higher outcomes than those who perceived they had little freedom in their choice to attend; Mathieu, Tannenbaum, & Salas, (1992), and Quiñones, (1995) found that trainee's self-efficacy and appropriate pre-training motivation may influence training preparation, performance, and transfer; in the same line, Tannenbaum, Mathieu, Salas, & Cannon-Bowers (1991) found that trainees were motivated if the content and purpose of the program matched their expectations. To the author's knowledge, the exception for previous findings was a study conducted by Werner, O'Leary-Kelly, Baldwin, and Wexley (1994),

using one hundred fifty trainees. They pointed out, "no significant effects were observed between pre-training intervention and any of the trainee outcome measures" (p. 169). These researchers explained, "The most likely explanation for this was that our pre-training intervention was not strong enough to produce noticeable changes" (p. 180). Likewise, this researcher thinks that DANAVEN has to intensify its capability to well track pre-motivational factors. It looks that the efforts done to motive people before training programs take place are not as effective as they could be. More stimuli to boost trainees' desire to use the newly acquired knowledge and skills on the job is warranted. Thus, this finding is not at all disappointing; since its cause seems to be more related to a weak effort to motivate people before they attend their programs, than to a lack of relationship between both variables themselves. Perhaps current pre-motivational practices at DANAVEN have been suitable but not sufficient to support training transfer relationship.

The other set of pre-evaluations referred to assessment of *training needs based on organizational objectives* evidenced a positive, but not statistically significant relationship with training transfer ($p=.083<.05$). The pattern of responses about TNA showed a favorable participants' attitude to be 67.6% versus only 14.9% unfavorable. Likewise, information gathered from qualitative analysis recognized TNA as a well managed process, since employees identified their training needs and programs required to overcome performance gaps.

Regarding the importance given to TNA as a factor affecting training transfer, Noe (1986) affirmed, "If trainees perceive the needs assessment as credible and as providing useful information regarding skill strengths and weaknesses, they will react favorably to the information received. As a result, trainees likely will be motivated to improve skill weaknesses through participation in a training program specifically designed on the basis

of the needs assessment information" (p. 743). In addition, most of the studies in the literature review recognize the training needs assessment as a vital factor affecting transfer rate, since TNA identifies needs well focused with organizational goals, job requirements and personal expectations (Bennett, 1995).

The TNA's result was not surprising, since DANAVEN makes an effort to train people according information gathered from the needs assessment information. In fact, DANAVEN tracks it through its "pre-checking validity" instrument, for more accuracy.

The last pre-training evaluation variable analyzed was *training goals setting.* This variable achieved the strongest level of statistical significance of all pre-training evaluation variables studied. Thus, *training goals setting* demonstrated a positive and statistically significant relationship with training transfer ($p=.019 < .05$). The pattern of responses about training goals setting showed a moderate favorable participants' attitude to be 43% versus 36% unfavorable. *Training goals setting'* results is consistent with the literature review. Goal setting is recognized as a powerful technique to improve performance in many different areas (Locke & Latham, 1990). In the training field, goal setting has been found to increase the likelihood that trainees will transfer their new skills and knowledge back to the workplace (e.g. Marx, 1982). Furthermore, when trainees set specific goals for the transfer of training, it has been found to be more effective, especially for trainees with higher levels of self-efficacy (Stevens & Gist, 1997; Murtada & Haccoun, 1996). Also, a study conducted by Hesketh (1997a), demonstrated that training goal setting assists trainees to increase transfer of training by focusing on the steps required to achieve their longer-term career outcomes. Latham & Sejts (1999) suggested the importance of set short-term goals as well as long-term goals. Short-term goals provide trainees with more immediate opportunities for successful outcomes and

goal attainment. Since, DANAVEN included an assessment instrument to capture the expected results of the training programs, before they attend their courses, a supportive relationship in both variables was expected.

In brief, pre-training evaluations variables used in this study were aimed to analyze a list of factors, which have been previously tested by other researchers as supporting training transfer. In this study, those factors were sorted in three groups: *pre-motivational* factors, assessment of *training needs based on organizational objectives*, and *training goals setting.* When analyzed separately, they provided two different results: no statistically significant relationship for pre-*motivational* factors, and for assessment of *training needs based on organizational objectives;* and a positive and statistically significant relationship for *training goals setting*, respectively. When data were analyzed for all pre-training evaluation variables as a whole, the primary independent variable of this study, termed *formal pre-training evaluation,* demonstrated a positive and statistically significant relationship with training transfer. In addition, the pattern of responses regarding pre-training evaluations showed a favorable participants' attitude to be 68.45% versus 18% unfavorable. Given the positive findings reporting a 11.9 percent of the variance in positive transfer rate (DV) explained by pre-training evaluations (IV) and vice versa, this researcher ratifies the importance of including pre training evaluations for identifying individual and organizational factors that may restrict trainees to use the new KSA's in the workplace.

Summary of Findings and Conclusions Related to Research Question 2

What is the relationship among measures of transfer training rate and the use of ***post-training*** *evaluations?*

Analysis of the data shows that the use of post-training evaluation variables is positively related to the transfer training rate. The results revealed a statistically

significant relationship (p=.004 < .05) between post-evaluations and training transfer rate. The *post-training evaluations* variables under study were intended to track a list of post training factors, which were grouped as follow: *trainees' satisfaction, achievement the training goals, and organizational support.* Those post training factors have been grounded in theory as supporting training transfer. In order to get a complete picture, they were analyzed separately and jointly as well.

When the sub-variable the *trainees' satisfaction and potential applicability* was analyzed separately, no statistically significant relation was observed. Data on *trainees' satisfaction and potential applicability* was gathered through existing DANAVEN's indicators. Thus, it was known that 76% surveyed people judged as "Excellent" and 24% as "Very Good" the quality of the each program under study. The lack of significance between trainees' satisfaction and transfer rate is not at all surprising even though these participants' had favorable perceptions of satisfaction regarding those programs attended. A possible explanation for this result is that trainees' satisfaction is more an evaluation of training content and training process, than an indicator of transfer rate. In addition, it is important to emphasize that most findings in the literature review regarding trainees' satisfaction are related to Kirkpatrick's (1967) four level model. Since this hierarchical model starts evaluating trainees' reactions (level 1), most research has focused on its linkages with other training levels, 2, 3 and 4. However, studies on the 4 levels model have reported that "the implied causal linkages between each level of the taxonomy had not been demonstrated by research" (Alliger and Janak,1989). Indeed, this study did not find a relationship between trainees' satisfaction and training transfer

Regarding the set of *achievement the training goals'* variables, results showed a positive and statistically significant relationship with training transfer (p=.004<.05). The

variables used to measure the present construct were: plans of action, identification of behavioral changes, identification of new improvements on the job, and measurement of tangible results. The respondent's attitude tendency regarding the achievement of training goals was moderately favorable (44.7 % favorable vs. 37.1 unfavorable).

The positive relationship between transfer rate (DV) and achievement training goals (IV) is consistent with goal-setting theory. Using goal-setting theory, researchers have demonstrated that trainees are more likely to apply new learning when they are presented with a skill utilization objective. A study conducted by Werner, O'leary-Kelly, Baldwin, and Wexley (1994), demonstrated that after using the check lists for four weeks, subjects in the goal setting conditions viewed the training more favorably , while subject who received no concrete means of maintaining their newly learned behaviors became less favorably inclined toward training. An explanation given was based on the fact that trainees were required to complete the check list activities over time, so the use of checklists could have enhanced the self-efficacy of subjects. As explained earlier, DANAVEN uses check lists and learning contracts for training tranfer purposes. Therefore, it was not surprising to find the positive perception of 5.7 percent of the variance in positive transfer rate (DV) explained by achievement training goals (IV) and vice versa.

The last post-training evaluation set of variables analyzed was *Organizational support* in the workplace. This set of variables achieved the strongest level of significance within all post-training evaluation variables studied. *Organizational support* in the workplace demonstrated a positive and statistically significant relationship with training transfer ($p=.001<.05$). Organizational support in the workplace was measured through three aspects: opportunity to use new KSA's on the job, support of supervisors, and

reinforcement policies. An evident pattern of favorable responses regarding this issue was perceived by 69% of surveyed people.

Research in the field has highlighted the importance of the workplace environment in training transfer and learning (Latham, Millman and Miedema, 1998) and in pre-training self-efficacy (Tracey, Hinkin, Tannenbaum and Mathieu,2001). In addition, it is also evident that there has been a shift in research focus from examining these factors as individual influences on transfer and learning, to examining training as a system embedded within an organizational context (Salas and Cannon-Bowers, 2001).

It comes as no surprise then that *Organizational support* in the workplace took a value of adjusted R^2 to be .086, which means that 8.6 percent of the variance in positive transfer rate (DV) is explained by post-training evaluations (IV) and vice versa. This finding is an interesting factor for creating a suitable evaluation instruments to track transfer work environment. As recognized by Salas, Shawn, and Cannon-Bowers (2002), "Where there is a perceived lack of management support for the transfer of training or a perception that the transfer of training is of little value to the organization, there is little incentive for trainees to invest the effort required to succeed in training." (cited by Kraiger, p. 272)

Summarizing, the results found for the second research question, it is important to highlight that post-training variables exhibited the following results: no statistically significant relationship for trainees' satisfaction variable, a significant relationship for achievement training goals, and the highest significant relationship for organizational support, respectively. When data were analyzed for all post-training evaluation variables, the second main independent variable of this study, termed *formal post-training evaluation* demonstrated a positive and statistically significant relationship with training transfer. In addition, the pattern of responses about post-training evaluations showed a favorable

participants' attitude to be 61% versus 25% unfavorable. Given the positive findings reporting a 8.6 percent of the variance in positive transfer rate (DV) explained by post-training evaluations (IV) and vice versa, this researcher ratifies the importance to include post- training evaluations aimed for identifying individual and organizational factors that may restrict trainees to use the new KSA's in the workplace.

Summary of Findings and Conclusions Related to Research Question 3

What key factors within and outside the training context could influence the rate of training transfer in DANAVEN, and what extra factors could be added to improve its evaluation training system?

Analysis of data for this question is presented in quantitative and qualitative ways.

- *At the quantitative level*, the preference of the surveyors regarding the three most important motivations for applying their KSA's on the job, in hierarchical order reveal the following findings: "Improve my background" gained the first place, "help the organization to achieve expected results" at second place, and third, "obtain a favorable performance evaluation." Beneath these responses, the results show three different kinds of factors affecting the training transfer rate: *abilities, achievement of training goals, and rewards* respectively. When people say "I apply my KSA's learned in a training program on my job in order to *improve my background,*" they are expressing their desire to become mastered employees when doing their tasks, which in turn leave them personal benefits. When people say: "I apply my KSA's learned in a training program on my job in order to *help the organization to achieve expected results,*" in this case, they are thinking about their company, which in turn allow them to guarantee a safe place to work. Lastly, when people say: "I apply my KSA's learned in a training program on my job in

order to *obtain a favorable performance evaluation,"* they desire to be rewarded by their bosses.

- *At the qualitative level,* no surprisingly, the responses were too similar. Table # 48 captures the reasons that participants pointed out for applying KSA's on the job, As observed, in this study, intrinsic factors were the most common focus of the participants' responses rather than extrinsic factors. It means that participants firstly look for acquiring knowledge and experience to improve their performance and then, if the organization offers them opportunities for transferability of newly trained skills, they take advantage of it.

This question deals with the "soft" theme of motivation. Motivation to transfer is described as, "the trainees' desire to use the knowledge and skills mastered in the training program on the job" (Noe, 1986). Motivation to transfer is believed to moderate the relationship between learning and behavior change. Therefore, two important implications come from these responses. Firstly, when planning the participants' attendance to training programs, the presence of those three factors, *abilities, achievement of training goals, and rewards,* should be evaluated in order to assure that trainees would meet their expectations. Secondly, when designing pre-training evaluation instruments, these factors must be included as a part of the pre-training evaluation criteria. In brief, the pattern of responses, at qualitative and quantitative level, suggests that people apply KSA's learned from training programs on the job, firstly to satisfy personal reasons and secondly for organizational motivations.

The second part of this research question was to determine other factors affecting transfer rate. In that sense, people were asked about strengths and weaknesses of the

DANAVEN's training evaluation system. Analyses of the data for these responses reveal that strengths of DANAVEN's training evaluation systems were in hierarchical order as follow: the system is results oriented, the system reinforces trainees' commitment to apply the KSA's learned, and the system generates training indicators. In contrast, weaknesses of DANAVEN's training evaluation systems were in hierarchical order as follow: the staff ignores the results; the evaluation system requires a lot time to apply and to follow up pre and post training evaluations; and the evaluation system is complicated to use. Implication for these responses is evident because they provide insights to improve the current DANAVEN training evaluation system, and foremost, they ratify that a formal training evaluation system is seen by trainees as a tool helping them to achieve training results, while at the same time, it shows training results through a set of training indicators.

Summary of Findings and Conclusions Related to Research Questions 4 and 5

What relationships exist between the trainee's years worked in the company and the positive transfer rate? and *What relationships exist between the trainee's job position and the positive transfer rate?*

Since research question 4, related to years worked in the company, and research questions 5, related to job position, were included as demographic questions, results from them are presented jointly.

Analysis of the data regarding the independent variable *years worked in the company* showed a no statistically significant relation between positive transfer rate and years worked in the company. The minimum expected count was .37 and the likelihood ratio was 25.319, thus the results inferred that there is no association between both variables.

The information gathered from this question was useful to know that DANAVEN's personnel exhibit a good length of employment with the company. In fact, people who have worked in Danaven during more than 10 years reached the highest percentage (34%), and the lowest percentage (3.7%) belongs to those who have worked during a short period of less than one year. However, no relationship between both variables was found.

Likewise, analysis of the data regarding the independent variable *trainee's job position,* showed no statistically significant relationship with the positive transfer rate.

The minimum expected count is .37 and the likelihood ratio is 20.750, thus the results may infer that there is no association between both variables. The information gathered from this question was useful to know the job positions' distribution along the population studied. Supervisory level was the most frequent job categories in this study (46%); this level included all middle positions making decisions at tactic level.

It is important to highlight that the author does not find previous studies to analyzing the relationship between *trainee's job position* and transfer rate, and *years worked in the company* and transfer rate. The only demographic variable found was age, which was not analyzed in this study.

Summary of Findings and Conclusions Related to Research Question 6

What relationships exist between the notification of the training event through a formal invitation and the positive transfer rate?

Analysis of the data regarding the variable *notification of the training event* showed a no statistically significant relationship relative to the positive transfer rate. In fact, the chi square test showed a minimum expected count of 2.65 and a likelihood ratio of 3.888, thus the results infer that there is no association between both variables. This

finding is not surprising, as noted by Noe (1986), communications pertaining to the training program, especially information regarding the purpose of the training and potential outcomes that they may obtain, are important to increase trainees' expectancies, rather than being strongly related to effectiveness. In other words, the notification itself is not directly associated with transfer of training but it is a good mechanism to enhance expectances.

Summary of Findings and Conclusions Related to Research Question 7

What relationships exist between the setting of a learning contract and the positive transfer rate?

Setting of a learning contract variable showed a minimum expected count to be 2.60 and the likelihood ratio to be 10.066, thus the results infer that there is no association between this variable and transfer rate. A body of anecdotal literature suggests that learning contract or action planning as named as well, is a powerful strategy to facilitate transfer, which is intrinsically related to self-efficacy and goals setting. Specially, practitioners recognize that when trainees are shown how to prepare an action plan, and they spend sufficient time setting goals to be achieved, they are challenged to do it, as a result transfer of training occurs. However, there has been no empirical research to supporting that. In Danaven only 26% of people stated that they have signed a learning contract after training occurred. This small percent of learning contract usage should be affecting the present result.

General Discussion and Implication

The challenge to investigate training transfer evaluation, in despite of the caveats' experts qualifying training botton line as hard to probe, was centered in trying to demostrate with scientific rigor that training evaluation is worthwhile. The final purpose of this study was to find out convincing results to demonstrate that the use of formal instruments to evaluate training context factors, *before* making training decisions and, *after* the occurrence of training programs can influence the training transfer rate. As such, it may be considered as a preliminary attempt to connect previously unconnected constructs, training evaluations, pre and post, and training transfer, in the broadening of the field.

This research provides a comprehensive theoretical framework for understanding the relationship between a set of independent variables (formal pre and post-training evaluations) on the single dependent variable (positive training transfer rate). The findings showed a positive and significantly relationship between studied variables. However, the approach taken here have some limitations:

1. The operational measures were based on the specific design of the training evaluation system used by DANAVEN. Although the list of training transfer factors used by DANAVEN are supported by the specialized literature; the list excludes other factors affecting transfer rate identified by other researchers, such as locus of control, self-efficacy, peer support (Tziner & Haccon, 1991, Quinones, 1995, Holton, Bates, & Rouna 2000), and others. Additionally, the instruments used by DANAVEN to measure those factors offer opportunities to be improved.

2. The analysis between historical data (training transfer rates) and recent data gathered from the questionnaires (pre and post training evaluation variables), presents two different consequences. On one hand, it allows the researcher to analyze the transfer rate performance against numerous trainees attending around more than 70 different training programs. However, on the other hand, the opinions gathered from participants were based on their memories of prior experiences. Although revention was done to avoid participant's biases, this matter is too difficult to be eliminated all together.
3. The ambitious purpose to demonstrate the relationships between each factor included along the DANAVEN's training evaluation instruments and training transfer rate, produced a low relationship. As a result, it was necessary to identify better predictor factors of the training transfer rate, due to the intricate relationship between those factors themselves. This problem is exacerbated by the fact that each group of factors was broken down into sub-factor groups, with specific outcomes nested within the smaller sub-factors.

Recommendations for Future Research

Since the methodology developed to conduct this research, as well as the instruments, measurements and its findings pertain to a single corporation, DANA DE VENEZUELA, generalization of study's findings to other organizations are limitated. Therefore, further research in different organizational contexts, with sophisticated research techniques should be required in order to support this line of inquiry, *"Training transfer supported by formal training evaluation systems"*

This study can be expanded and reinforced in several ways:

1. Constructive Replication: this type of replication deliberately avoids imitation of the first author's method while keeping in mind the clear statement of the empirical fact that the first author established (Babblie, 2003, p. 146). As a result, in this case, other researchers could transform those limitations reported in this study in researching opportunities. Perhaps, it would be useful to choose a specific training program and apply an experimental method in order to observe training transfer outcomes with and without formal training evaluation instruments, or through any other method appropriate, to capture this particular research problem.
2. Another opportunity for future research is to improve those evaluation instruments currently used by Dana, and measure its effectiveness to stimulate training transfer afterwards. If future findings corroborate the positive relationship between formal evaluation systems and training transfer rate, the creation of an integral training evaluation model may be urgent in order to help us predict the effectiveness of any training program.
3. Within this line of inquiry, it will be interesting to study the feelings of trainees when they are observed through tests, observations, recordings, and other evaluation procedures. Can those feelings lead to changes in behavior that would not occur if the trainee were not aware of the evaluative nature of his or her training attendence? The effects of reaction to training evaluation become an interesting research topic to be explored in-depth.

4. Since, the values of R^2 for the pre-training evaluations (12%) and the post-training evaluations (14.5%) were moderate low, it is important to investigate what other factors are affecting the training transfer rate. Other studies could explore further individual, academic, and organizational factors, that may be affecting the training transfer, before, during, and after training occurs. If new factors are found, they might be incorporated as a part of the evaluation instruments.

Finally, it is important to highlight that more empirical evidence regarding this line of inquiry is demanded. In fact, Alvarez, Salas and Garofano, (2004) in a recent specialized study focused on training evaluation and training effectiveness (1993- 2003), found only one research from a total of 73 studies investigated, which was set to examine the relationship between evaluation measures. Regarding the rest of the studies, 52 had to do with personal traits, 16 dealt with the characteristics of the training, and 4 studies dealt with organizational matters. Indeed, these results confirm the importance for further research to be added to this starting contribution.

Recommendation for Practices

The findings of this study promote a dramatic change in the traditional training evaluation system. It suggests creating a new training evaluation system that can cover all factors that affect training transfer in order to induce a "stimulated transfer" (term used by Broad and Newstron, 1992). In that sense, the findings suggest the need for a comprehensive discussion of implementing training evaluations as a predictive mechanism to influence a positive training transfer rate. Therefore, several recommendations are outlined next:

1. Since pre-training evaluation variables show a positive effect on the training transfer rate, it is recommended that training practitioners beginning to focus on developing instruments of evaluation, which can track individual and organizational factors affecting potentially the training transfer rate and reducing predictable post-training environment obstacles. In that sense, it may be useful to design or re-design refined instruments like inventory list of pre-training factors affecting transfer to be used before training takes place. In addition, strategies such as self management (identifying obstacles to performance), setting goals(to achieve the plans), self-monitoring progress, self-reinforcing goal achievement, and relapse prevention, as suggested by training experts and researchers, should be included as a part of pre-evaluations forms.
2. Within pre-training variables, the Training Goals Setting variable did have a positive and statistically significant relationship with training transfer. As a result, practitioners should ensure, as a guiding principle, that each employee to be trained, setting his/her training goals before training take place. This finding supports other authors recognizing that, "when trainees are held accountable in

some way for the implementation of their learning, it is assumed that transfer is more likely to occur" (Laker, 1990). Therefore, efforts must be made to set goals before training occur, and as a post-training transfer strategy helping trainees to determine their own goal in consultation with others, such as the trainer or their supervisors, in order to use the KSA's acquired on-the-job.

3. Given the positive and statistically significant relationship between Post-training evaluations variables and the transfer rate; training practitioners and trainers should be sure to provide suitable instruments to measure not only the trainees' motivation to learn, but also their motivation to apply that learning. Here, it is necessary to identify potential uses of the training in order to increase the motivation to use the new skills, by reinforcing the applicability of the training to the work place, and proving a supportive training transfer environment.
4. This research suggests progressing towards a formal training evaluation system, composing of pre and post instruments. This formal evaluation system will provide the necessary structure and guidance to assist learners to anticipate the work place demands, to provide mechanisms to help them to apply their KSA's as an integral part of their work behaviors, to reduce the post-training constraints environment, and also orients trainees toward to reach training transfer goals. A formal training evaluation system enhances several of the facilitating factors, while potentially discouraging the inhibiting factors, such as weak motivation, lack of content program relevance, unsupportive work environment, and others. This system should include individual, instructional, and organizational factors that have shown to be of great significance during the recent years of research.

5. Traditional reactive evaluation methods must be substituted by predictive evaluation systems that will drive training efforts towards better application and use in the workplace. The new training evaluation system tries to abandon worthless training activities that only reflect diplomas and manager's worktables filled up with just figures. Therefore, the new training evaluation criteria must stimulate the adoption of an evaluation process destined to determine and measure effectiveness instead of simple results and records.
6. Finally, a training evaluation system must be friendly to use, neither complex nor time consuming, and may be easily integrated into any type of training program. Additionally, organizations must set policies, procedures and programs to formally apply training evaluation practices to increase training transfer results. Those policies must be supported by proper training programs to educate supervisors and trainees regarding how evaluate training outcomes. For the cost of the implementation of those practical programs, organizations might expect to create a training evaluation culture looking for increased levels of training transfer, and consequently a higher return on training investment.

Final Summary

The major importance of this research lies on its effort to connect two critical issues belonging to the training research field. The first issue is training transfer and the second ones is evaluation of training. Both issues come together to create the construct, *positive training transfer supported by formal evaluation training systems*. The findings of this study were derived from information gathered from three key sources: questionnaires, interviews, and existing data. Questionnaires and interviews were used to examine the participants' perceptions on DANAVEN's training evaluation system, while the transfer rate of each trainee surveyed came from the DANAVEN's existing data.

A total of 215 cases and 8 interviewees was the target population studied at DANA VENEZUELA, a Venezuelan-American corporation that developed and has applied systematically a tailored training evaluation system. The findings reveal a positive and significant relationship between a formal training evaluation system and the training transfer rates. In fact, this study demonstrated that a well evaluation system properly designed and implemented can contribute to convey training knowledge from classroom to jobsites, in behalf of the employee and the organization.

These findings should provoke a dramatic change in the traditional training evaluation systems. Therefore, a comprehensive discussion of the process to implement training evaluations is imperative. Although, it is outside the scope of this study to discuss transfer evaluation techniques and data collection procedures, it is evident that there is a strong need to develop instruments of evaluation which can track knowledge, skills, and abilities gained from training activities in order to stimulate a positive training transfer on the job.

Positive training transfer, supported by formal evaluation training systems, provides one way of monitoring progress to enhance transfer rate. Such evaluations increase the likelihood of transfer because they acknowledge the impact of organizational system factors while at the same time supporting the individuals to focus on potential applications for using the KSA's learned. Evaluations must begin before training takes place through identifying potential obstacles and providing the means to overcome them. The evaluation process should conclude when trainees have incorporated their KSA's as a permanent behavior into their jobs.

Finally, since there is considerable interest in obtaining good dividends from training investment, innovative changes regarding training transfer evaluation were suggested. In that sense, this study provides practical advice for practitioners, trainers, performance technologists, and top management in organizations searching for a proper answer to the training transfer and its evaluation process, before and after training is conducted. In addition, it represents a starting contribution in the broadening of the literature training field.

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APPENDIXES

DANAVEN'S EVALUATION INSTRUMENTS

- APPENDIX A: PRE-CHECKING VALIDITY
- APPENDIX B: TRAINEE'S SATISFACTION
- APPENDIX C: CHECK LIST
- APPENDIX D: LEARNING CONTRACT

APPENDIX A

DANAVEN

PRE-CHECKING VALIDITY

EMPLOYEE's INFORMACION

Names: _____ Employee I.D: _____ I.DI _____

Job Position:

_____ Department.: _____

TRAINING INFORMATION

Course Name: Investment $

Date: From / / / to / / / Schedule Institution

TRAINING NEEDS

Explain the reason(s) than justify the employee participation in the suggested course

Expectations and Outcomes

A: _____

B: _____

C: _____

SUPERVISOR OPINION

Does the employee have the appropriate background to participate in the training program?

Is the training program opportune regarding current or future employee's job? Yes ☐ No ☐

Do you agree that the employee attends the event? Yes ☐ No ☐

If not Why?

Do you consider necessary to reprogram the date of this event? Yes ☐ No ☐

If yes, mention causes and suggested dates.

EMPLOYEE OPINION

Do you know the objectives and content of the course? Yes ☐ No ☐

Do you feel satisfied with the communication gotten from your boss/HR department regarding the training to be attended?

_____

Sign employee

APROVALS

_____	_____	_____	_____
Supervisor	Sign	HRM	Manager

DANAVEN

APPENDIX B

TRAINEE's SATISFACTION

EMPLOYEE INFORMACION

Name: _____ Job Position:_____ ID: _____ Employee I.D : _____

TRAINING INFORMATION

Course: _____

Type: Course__ workshop__ Seminar__ Lecture__ Technological apprenticeship__ others_____

Internal__ External__ InvestmentBs./$: _____

Institution: _____ Date: From: _____ To: _____ Duration: _____

EVALUATION FACTORS

Please check below the number that better express your opinion.

Scale: (5) Strongly agree (4) Agree (3) Difficult to opine (2) Disagree (1) Strongly disagree

OBJECTIVES AND POTENTIAL APPLICABILITY	5	4	3	2	1	ACADEMIC AND LOGISTIC ISSUES	5	4	3	2	1
1.Learning objectives of the course were accomplished.						1. Organization and logistic of the course were appropriated.					
2. My expectations were satisfied.						2. The material will be an useful and permanent consultation tool.					
3. New KSA's will allow me to improve my performance on the workplace.						3. Topics analized are updated.					
4. Course gave me important tools to solving problems and achieving goals in my organization						4. There was a balanced background among participants.					
5. I have the resources and support required to apply my new KSA's.						5. The instructor was well prepared.					
6. Applying new KSA's I am able to suggest and/or do improvements that positively impact the organization.						6. The teaching methodology generated participation and interest among participants.					
7. I will be able to teach my new KSA's to other co-workers.						7. I received appropriate prior information to attend the course					
8. Acquired learning awakend my interest and motivation.						8. During this event were shown examples, experiences and/or applicable practical cases.					
TOTAL:						TOTAL:					

Mention main strengths and weaknesses of the program

Do you believe necessary to reinforce this learning through other courses or training activities?

Suggestions to improve the program

GENERAL APPRECIATION

In general way I relieve that this event was:

EXCELLENT VERY GOOD GOOD FAIR POOR

REV. 0 01-07-99 F-RHC-002

EVALUATION RESULTS

CALCULUS

Please put the obtained amounts in the blank space then multiple each of them per the indicated factor. Sum the three (3) partial results to obtain the total punctuation:

Punctuation of Objectives and application on the job_____ X 0.70 = _____
Punctuation of Academic and logistic issues_____ X 0.20 = _____
Punctuation of General Appreciation_____ X 0.10 = _____

TOTAL _____

SCALE:

EXCELLENT: BETWEEN 40 AND 36 POINTS (BEYOND EXPECTATIONS)
GOOD: BETWEEN 35 AND 24 POINTS (WITHIN EXPECTATIONS)
POOR: BETWEEN 23 AND 08 POINTS (UNDER EXPECTATIONS)

INTERPRETATION' s RESULTS

SUPERVISOR COMMENTS

APROVALS

_____	_____	_____
IMMEDIATE SUPERVISOR	RR.HH	EMPLOYEE

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Company: _____

DATE: ____/____/____.

DANAVEN

APPENDIX C

PRE-POST CHECK LIST

IDENTIFICACION

NAME OF EVENT _____

NAME OF EMPLOYEE _____ JOB POSITION _____

EVALUATOR SUPERVISOR _____ JOB POSITION _____

REVISION: ☐ 30 DAYS ☐ 60 DAYS ☐ 90 DAYS ☐ OTHERS: _____

EVALUATION

ACTIVITIES	PRE-TRAINING					POST-TRAINING				
	DATE:					DATE:				
	EVALUATION-PRE					EVALUATION -POST				
	1	2	3	4	5	1	2	3	4	5
SUB-TOTALS										
TOTALS.....	TOTAL/PRE:					TOTAL/POST:				

OBSERVATIONS

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RESULTS OF EVALUATION

GENERAL IMPRESSION _____

_____

SPECIFIC IMPRESSION

☐ Job domain	☐ Cooperation	OTHERS:
☐ Performance	☐ Make Decisions	
☐ Job Quality	☐ Supervisor skills (Supervisor level)	
☐ Creativity and Initiative	☐ Communication skills (Supervisor level)	
☐ Fulfil rules	☐ Administrative Capability (Supervisor level)	
☐ Interpersonal Relationship	☐ Human Resources Development (Supervisor level)	

ECONOMIC IMPACT

BENEFITS	VARIABLES/ CÁLCULATIONS	SAVING / US $
	TOTAL SAVINGS.....	
R.O.T.I. = TOTAL SAVING - INVESMENT X 100 / INVESMENT	**INVESMENT .....**	
	R.O.T.I.	

INTERPRETATION OF RESULTS

APPROVALS

EMPLOYEE	IMMEDIATE SUPERVISOR	RR.HH

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APPENDIX D

LEARNING CONTRACT

EMPLOYEE INFORMATION

Name: _____ I:D: _____ ID Employee: _____

Job position: _____ Dpt._____

EVENT INFORMATION

Course: _____

Type: ☐ Internal ☐ External ☐ Grupal ☐ Individual

Date: From: _____ To: _____ #hours: _____Investment Bs.: _____

ACTION PLAN

ACTIONS TO BE DEVELOPED	REQUIRED RESOURCES	DEADLINE DATE

REV. 0 01-07-99

POST-TRAINING EVALUATION RESULTS

REVISIÓN TIME AVANCE	30 Days _____%	60 Days _____%	90 Days _____%	Others _____ %_____

GENERAL EVALUATION (COMMENTS)

SPECIFIC IMPRESSION

☐ Job domain	☐ Cooperation	OTHERS:
☐ Performance	☐ Make Decisions	
☐ Job Quality	☐ Supervisor skills (Supervisor level)	
☐ Creativity and Initiative	☐ Communication skills (Supervisor level)	
☐ Fulfil rules	☐ Administrative Capability (Supervisor level)	
☐ Interpersonal Relationship	☐ Human Resources Development (Supervisor level)	

ECONOMIC IMPACT

BENEFITS	VARIABLES/ CÁLCULATIONS	SAVING / US $
	TOTAL SAVINGS.....	
R.O.T.I. = TOTAL SAVING - INVESMENT X 100 / INVESMENT	**INVESMENT .....**	
	R.O.T.I.	

INTERPRETATION OF RESULTS

APPROVALS

EMPLOYEE	IMMEDIATE SUPERVISOR	RR.HH

PERMISSION LETTERS

- Appendix E: Introduction letter
- Appendix F: Consulting and Research Proposal
- Appendix G: Authorization Letter

APPENDIX E

November 10, 2003

Vice President of Human Resources Management
DANA VENEZUELA
Valencia. Carabobo
VENEZUELA.-

Dear Orlando Montes:

I am enclosing a research and consulting proposal for your review which would be interesting to both parties. As you will recall, I am at the dissertation phase of my Ph.D. at Lynn University and thus I am interested in researching the influence of the training evaluation systems to enhance the effectiveness of transfer of training rate. Specifically, I attempt to demonstrate that using suitable pre and post evaluations to monitor those factors affecting the effectiveness of the training, the amount of transfer from the training environment to the workplace should be increased.

Since DANA VENEZUELA has been applying a formal system of evaluation of training, your organization would provide me an ideal context to conduct the research. Certainly, I would compare real data versus the trainees' perceptions in order to make conclusions regarding how well the current evaluation system is able to track all factors-individual, and organizational-affecting transfer effectiveness and how that monitoring action allows the organization to reach a positive transfer of training rate. Also, the study will identify key factors to increase the training effectiveness and improvements to be added into the current evaluation training system. I believe that we will see appealing results that you may use to strategically manage training in your organization in the future.

I would appreciate the opportunity to develop this research at DANA VENEZUELA. If you agree with the attached proposal, please let me know formally your acceptance to conduct the mentioned research.

Sincerely,
Nerza Rey de Polanco
Doctoral Candidate

Appendix F

TO: Cooperating Company
Vice-President of HRM
FROM: Nerza Rey de Polanco
Ph.D. Candidate at Lynn University
Phone: 561-445.5885
Email: nerzarey@aol.com
Date: November 10, 2003
Re: **REQUEST FOR RESEARCH COOPERATION**

Introduction

Positive transfer of training is becoming one of the major concerns of modern organizations due to its influence to achieve successfully organizational goals in a global economy (Baldwin & Burke, 1999, Tannenbaum & Yukl, 1992, Hoekstra, Erik, 2003). However, research in this area suggests the training transfer reflects a dismal transfer rate of 10% (ASTD, 2002, Georgenson, 1982). In addition only 3% of all training courses in the United State are evaluated for business impact according to the annual report conducted by the American Society for Training and Development. (ASTD, 2001). Based on those cited references, an overall of the problem consists on a low rate of training transfer and the absence of effective evaluation and measurement of training interventions to support positive training transfer and demonstrate training results. Therefore, this research develops a theoretical framework that place evaluation training process as an effective means to achieve two important outcomes:

I. To increase the rate of training transfer which means to have data available to track inputs, outputs, and processes to insure that each factor affecting transfer back on the job is proceeding as expected.
II. To demonstrate quantitative and qualitative training results which means to keep a set of key indicators for training results and performance.

Today we have empirical evidence regarding those factors affecting the transfer of training on the job. Indeed, several researches have showed what individual, instructional and/or organizational conditions must be present to achieve productive results from training activities. However, to date, no research has been done to study clearly the influence that formal training evaluation systems may have on the positive transfer rate of training. These themes are at the heart of the proposed research project.

Methodology

The research will utilize a multi-method approach combining quantitative design predominantly, and qualitative design as an alternative technique. A survey and existing data research will be complemented with qualitative interviews in the data collection phase. A suitable questionnaire will be applied to a convenient sample of employees who have been trained at least one time in the last six (6) months. The purpose is to identify the trainees' perception regarding the capacity of pre and post training evaluations to track each factor affecting the training transfer rate. Those results will be compared against real rate of transfer obtained

by each trainee surveyed in past training events. At a qualitative level, 10 people will be interviewed. The interviews seek to investigate how well the current evaluation training system has pushed the effectiveness of training and identified opportunities to improve its design. The results obtained from both sources, questionnaires and interviews allow the researcher to demonstrate the relationship between both variables studied, as well as to identify key factors most inclined to successfully manage future evaluation training systems at DANAVEN.

Confidentiality

All information gathered from surveys, interviews, and existing data will be addressed with rigorous confidential criteria. In doing so, data will be done in an anonymous or blind fashion by assigning numbers to each participant.

Benefits to the Cooperating Company

The information gathered from the research project will be made available to the company. Testing the research questions will give the company insight regarding the effectiveness of its system and will reinforce its current design. Additionally, if positive evidence is found, the DANAVEN evaluation training system should be extended as a corporate policy to other DANA companies around the world.
Finally, at the conclusion of the project, the researcher will make a presentation of findings to management at the request of the participating company.

Research Cost

Participants will be required to spend approximately 10 minutes answering to a 20-30 item survey instrument on their workplace.
Several meetings with personnel involved with training function, as well as an estimate of 45 minutes per each participant (10) to be interviewed will be required.
Revision and compilation of data from the accounting and HR records will be also needed.
All other costs will be covered by the researcher.

Researcher Background

Please, see the attachment.

Appendix G: Authorization Letter

DANA VENEZUELA

C.A. DANAVEN

To Whom It May Concern:

The undersigned Vice-President of Human Resources, on behalf of DANA VENEZUELA, has read the proposal presented **Nerza Rey de Polanco** that is attached. He agrees that the mentioned PhD student at Lynn University may conduct her doctoral dissertation entitled: "The Influence of the Training Evaluations on the Training Transfer: An experience in a Venezuelan-American Corporation" in our company. Also, we agree to allow Nerza to have access to our data in order to collect the necessary data for her research, as stipulated in her proposal.

This letter is issued at the requested of the interested party, in Valencia, Venezuela, on December 03, 2003.

For additional information do not hesitate to contact me through my email Orlando.montes@dana.com or the following phone number 58-241. 839-6358

Orlando Montes

Vice-President of Human Resources

C. A. DANAVEN

Gente Encontrando La Mejor Solución®

Av. Iribarren Borges, Zona Industrial Sur, Valencia, Edo. Carabobo, Venezuela.
Teléfonos: (58 241) 839.61.11 al 16 Fax: (58 241) 833.78.80
Web Site: www.danaven.com

APPENDIX H

PARTICIPANT INFORMED CONSENT

(QUESTIONNAIRE)

Dear Employee:

You have been asked to participate in a research study conducted by Nerza Rey de Polanco, a doctoral student of Lynn University, USA, as a requirement for her degree of Doctor of Philosophy in Corporate Leadership. The study attempts to demonstrate that the *application of pre and post-training evaluations* may increase the *training transfer rate* on the job successfully. According to the researcher's criterion, you are part of the target population accomplishing the necessary requisites to answer a tailored questionnaire.

The purpose of the questionnaire is to know your opinion regarding the system used by DANA VENEZUELA to evaluate the training effectiveness. The questionnaire comprises 34 questions and the total time involved in your participation will be approximately 10 to 15 minutes. The information you provide will be only used with academic purposes and kept strictly confidential. As a result, any publication or public presentation regarding the results of this study, it will not reveal any individual opinion given by the participants.

The participation in this study is VOLUNTARY. In addition, you may withdraw from this study at any time without negative consequences, for any reason you deem necessary. If so, your data will be eliminated from the study and destroyed. If you do participate, your identity will be protected through the use of alphanumerical codes. The information gathered will be kept in a locked security place by the researcher for a period of five years. After five years, the data will be destroyed.

Upon request, a copy of the final research analysis will be provided to you at the conclusion of the research. If you have any questions about any aspect of this study or your involvement, feel free to contact to the researcher by her telephone 0416-640.2474 at any time. If you have concerns about this project that you do not want to address with Nerza Rey, you may call Dr. Fred Dembowski Dissertation Committee Chairperson, Lynn University, at 001-561- 237.7855.

Two copies of this informed consent have been provided. Please sign both indicating you have read, understood, and agree to participate in this research. Please return one copy to the researcher and keep the other for your files.

Finally, it is opportune the occasion to thank to DANA VENEZUELA Board to conduct this research as well as to the employees accepting to participate in this study voluntarily.

Name of Participant (please print)	Telephone Number
Signature of Participant	Date
Nerza Rey de Polanco, Researcher	Date

APPENDIX H1

CONSTANCIA DE CONSENTIMIENTO DEL PARTICIPANTE

(CUESTIONARIO)

Estimado trabajador:

A usted se le está solicitando participar en un estudio de investigación conducido por Nerza Rey de Polanco, estudiante de Doctorado en Lynn University, E.U.A., para optar al título de Doctor de Filosofía en Liderazgo Corporativo. El estudio intenta demostrar que la aplicación de *sistemas de evaluación antes y después del entrenamiento* podría incrementar *la tasa de transferencia del entrenamiento* al puesto de trabajo en forma exitosa. De acuerdo al criterio de la investigadora, usted forma parte de la población que cumple con los requisitos necesarios para responder un cuestionario que ha sido diseñado para tales fines.

El propósito del cuestionario es conocer su opinión en relación con el sistema usado en DANA VENEZUELA para evaluar la efectividad del entrenamiento. El cuestionario esta conformado por 34 preguntas, las cuales pueden ser respondidas en un período de 10 a 15 minutos aproximadamente. La información proporcionada a través de este cuestionario sólo será usada con fines académicos y mantenida estrictamente confidencial. En consecuencia, cualquier publicación o presentación pública de este estudio no revelará ninguna opinión individual emitida por los participantes.

La participación en este estudio es VOLUNTARIA. Adicionalmente, usted podría retirarse de este estudio en cualquier momento sin consecuencias negativas, por cualquier razón que juzgue necesaria. En este caso, la información que haya proporcionado será eliminada y destruida. Si participa en el estudio, su identidad será protegida a través del uso de códigos alfanuméricos. La información recabada será resguardada por el investigador en un sitio seguro y cerrado por un período de cinco años a cuyo término será destruida.

A su solicitud, copia de las conclusiones de este estudio podrá serle otorgada al finalizar la investigación. Si tiene alguna pregunta sobre cualquier aspecto relacionado con el estudio o con su participación, siéntase libre de comunicarse con la investigadora en cualquier momento al teléfono 0416-6402474. Si usted tiene alguna inquietud acerca de este proyecto que no desee tratar directamente con Nerza Rey podrá llamar al Dr. Fred Dembowski al teléfono 001-561- 237.7855, quien es Jurado-Presidente de esta investigación en Lynn University. E.U.A.

Dos copias de esta constancia le están siendo entregadas. Por favor firme las dos copias en señal de que leyó, entendió y está de acuerdo en participar en este estudio, devolviendo una copia la investigadora y manteniendo la otra en sus archivos.

Finalmente, es oportuna la ocasión para agradecer a la Junta Directiva de DANA VENEZUELA por haber dado su aprobación para llevar a cabo esta investigación, así como también a los empleados que han aceptado participar voluntariamente en este estudio.

Nombre del participante (en letra de imprenta)	Teléfono
Firma del participante	Fecha
Nerza Rey de Polanco, Investigadora	Fecha

APPENDIX I

Code

Birth Date						

QUESTIONNAIRE

SECTION ONE

Directions

This section is composed of two types of questions. The first 14 questions refer to situations that occurred BEFORE you attended the last training program. The last 13 questions refer to situations that occurred AFTER you attended the last training program. Please take a few minutes to remember details of your last training program at both times: before and after. Then, answer the following questions to the best of your ability.

Please circle the appropriate reply after each statement according to the following scale:

SD: Strongly disagree 1	**D:** Disagree 2	**NO:** No opinion 3	**A:** Agree 4	**SD:** Strongly agree 5

BEFORE attending your last training (*)KSA= Knowledge, Skills, Abilities					
QUESTIONS	**SD**	**D**	**N0**	**A**	**SA**
1. I had the opportunity to become familiar with the program's content before the training took place	1	2	3	4	5
2. I had the opportunity to discuss the reasons to participate in the training event	1	2	3	4	5
3. All parts of the content seemed to be relevant to improve my performance	1	2	3	4	5
4. The program seemed to be appropriate to overcome (*) KSA's deficiencies related to my job	1	2	3	4	5
5. The trainer's background boosted my desire to attend the program	1	2	3	4	5
6. The reputation of the training institute selected boosted my interest to attend the program	1	2	3	4	5
7. The training program selected took into account my areas of interest	1	2	3	4	5
8. I felt free to decide on my attendance to the program	1	2	3	4	5
9. Attendance in the program seemed to promise some kind of personal or professional benefit	1	2	3	4	5
10. My personal background (education and experience) gave me confidence to attend the program	1	2	3	4	5

BEFORE attending your last training	SD	D	N0	A	SA
11. The program was a result of the training needs assessment to close the gap of KSA's related with my job	1	2	3	4	5
12. The program was a result of the training needs assessment to achieve goals of my department and/ or strategic objectives of the company	1	2	3	4	5
13. The program seemed to cover a future training need to enable me to deal with new responsibilities in the future	1	2	3	4	5
14. I had the opportunity to discuss and/or set the goals 15. to be achieved by me after the training					

SD: Strongly disagree 1	**D:** Disagree 2	**NO:** No opinion 3	**A:** Agree 4	**SD:** Strongly agree 5

AFTER attending your last training	SD	D	N0	A	SA
15. My immediate supervisor evaluated post-training goals accomplished	1	2	3	4	5
16. The setting of the action plan (learning contract) with my supervisor drove me to apply the new KSA's on my job	1	2	3	4	5
17. The supervisor followed up on my performance to identify new behavioral changes	1	2	3	4	5
18. The supervisor followed up on my performance to identify new improvements on the job as a result of training	1	2	3	4	5
19. I had the opportunity to analyze and discuss the results achieved by the training	1	2	3	4	5
20. I had the opportunity to show to top management the training goals achieved by me	1	2	3	4	5
21. Resources (equipment, machines, tools, supplies) needed to apply the new KSA's on my job were opportunely provided	1	2	3	4	5
22. The necessary time to implement new KSA's on my job was provided	1	2	3	4	5
23. The organizational climate around my job boosted me to implement ideas gained from training	1	2	3	4	5
24. Assignments and tasks given allow me to use the new KSA's learned	1	2	3	4	5
25. My immediate supervisors offered me the necessary support to apply the new KSA's on the job	1	2	3	4	5
26. The supervisor provided me criticism, comments, and/or advice regarding how well I have applied what I learned	1	2	3	4	5
27. Company policies have reinforced my desire to transfer the new KSA's to the job	1	2	3	4	5

SECTION TWO

Directions: Please choose three alternatives that better match your preference, then rank them using the following criteria: 1= Most important

3= Less important

Place the number 1, 2, and 3, on the blank space.

Remember that you can expand the list. If so, please rank it also.

Questions

28. The three most important motives for applying new KSA's on the job are:
    - ___To improve my background
    - ___To be promoted to a new position
    - ___To impress my bosses with my performance
    - ___To help the organization achieve expected goals
    - ___To obtain a favorable performance evaluation
    - ___Other: _____

29. The three most important strengths of DANAVEN's training evaluation system are
    - ___friendly to use
    - ___measurable
    - ___result oriented
    - ___reinforce trainees' commitment to apply the KSAs learned
    - ___generate indicators
    - ___Other: _____

30. The most important weaknesses of DANAVEN's training evaluation system are
    - ___complicated to use
    - ___require a lot time
    - ___staffs ignores results
    - ___does not add value
    - ___experts are required
    - ___Others: _____

SECTION THREE

Directions

Fill in the information requested in the blank space. If the answer is YES / NO, please place an X within the parenthesis after the alternative chosen

31. How many years have you been working for this company?

_____

32. Job Position: _____

33. A formal invitation with attached program content was sent out before of the training event

Yes ( ) No ( )

34. An action plan composed of a set of post- training goals to be completed within a time frame

was negotiated and written/ on a learning contract

Yes ( ) No ( )

THANK YOU VERY MUCH FOR YOUR COOPERATION!

APPENDIX I1

Código | | | | | |

Fecha Nacimiento						

CUESTIONARIO

PARTE 1

Instrucciones

Esta sección está compuesta de dos tipos de preguntas. Las primeras 14 preguntas se refieren a situaciones que ocurrieron ANTES de participar en su último entrenamiento, mientras que las últimas 13 preguntas se refieren a situaciones que ocurrieron DESPUÉS de asistir al entrenamiento. Por favor tome unos minutos para recordar detalles del último evento al cual usted asistió, entonces proceda a responder aportando sus mejores esfuerzos.

Por favor coloque un círculo sobre el número que mejor describe su respuesta de acuerdo a la siguiente escala:

TD: Total desacuerdo 1	**D:** Desacuerdo 2	**NO:** Ninguna opinión 3	**A:** Acuerdo 4	**TA:** Total acuerdo 5

ANTES DEL ENTRENAMIENTO	TD	D	NO	A	TA
1. Tuve oportunidad de familiarizarme con el contenido del curso antes de ser impartido	1	2	3	4	5
2. Tuve oportunidad de discutir las razones para participar en el curso	1	2	3	4	5
3. Todo el contenido programático parecía ser pertinente para mejorar mi desempeño en el trabajo	1	2	3	4	5
4. El programa parecía apropiado para superar deficiencias de conocimientos, habilidades o destrezas relacionados con mi trabajo	1	2	3	4	5
5. Las credenciales del instructor estimularon mi deseo de asistir al curso	1	2	3	4	5
6. La reputación de la institución seleccionada despertó mi deseo de asistir al curso	1	2	3	4	5
7. Mis áreas de interés fueron consideradas al momento de decidir sobre mi participación en el curso	1	2	3	4	5
8. Tuve libertad para decidir sobre mi asistencia al curso	1	2	3	4	5
9. La asistencia al programa parecía generarme algún tipo de beneficio personal y/o profesional	1	2	3	4	5
10. Mis conocimientos y experiencia me dieron confianza para asistir al curso	1	2	3	4	5
11. El curso fue producto de una necesidad detectada para cubrir mis deficiencias en el cargo	1	2	3	4	5

ANTES DEL ENTRENAMIENTO	TD	D	NO	A	TA
12. El curso fue producto de una necesidad detectada para alcanzar las metas del departamento y/o los objetivos estratégicos de la compañía	1	2	3	4	5
13. El programa parecía cubrir una necesidad potencial de entrenamiento para futuras responsabilidades	1	2	3	4	5
14. Tuve oportunidad de discutir y/o establecer las metas que deberían ser alcanzadas por mi después de realizar el entrenamiento	1	2	3	4	5

TD: Total desacuerdo 1	**D:** Desacuerdo 2	**NO:** Ninguna opinión 3	**A:** Acuerdo 4	**TA:** Total acuerdo 5

DESPUÉS DEL ENTRENAMIENTO	TD	D	NO	A	TA
15. Mi supervisor inmediato evaluó el cumplimiento de las metas fijadas después del entrenamiento	1	2	3	4	5
16. El establecimiento de un contrato de aprendizaje (plan de acción) me impulsó a aplicar en el trabajo los nuevos conocimientos, habilidades o destrezas adquiridos en el curso	1	2	3	4	5
17. Mi supervisor hizo seguimiento para identificar cambios de comportamiento derivados por el entrenamiento	1	2	3	4	5
18. Mi supervisor hizo seguimiento para identificar mejoras en el trabajo como resultado del entrenamiento	1	2	3	4	5
19. Tuve oportunidad de analizar y discutir los resultados alcanzados por la realización del curso.	1	2	3	4	5
20. Tuve oportunidad de presentar ante la alta gerencia los resultados que logre por la realización del curso.	1	2	3	4	5
21. Tuve acceso oportuno a los recursos (equipos, maquinarias, herramientas, suministros) necesarios para aplicar los nuevos conocimientos en el trabajo	1	2	3	4	5
22. Tuve el tiempo necesario para aplicar los nuevos conocimientos en el trabajo	1	2	3	4	5
23. El clima organizacional en torno a mi trabajo estimuló mi deseo de implementar ideas surgidas durante el entrenamiento	1	2	3	4	5
24. Las tareas asignadas me permitieron usar los nuevos conocimientos aprendidos en el entrenamiento	1	2	3	4	5
25. Mis superiores inmediatos me ofrecieron el apoyo necesario para aplicar los nuevos conocimientos en el trabajo	1	2	3	4	5
26. Mi superior inmediato me comunicó cuán bien he aplicado lo que aprendí	1	2	3	4	5
27. Las políticas de entrenamiento implementadas en la compañía han reforzado mi deseo de trasladar lo aprendido al puesto de trabajo	1	2	3	4	5

PARTE 2

Instrucciones

Seleccione tres (3) alternativas que mejor describen su preferencia, entonces proceda a jerarquizarlas de acuerdo al siguiente criterio: 1= Más importante

3 = Menos importante

Coloque el número 1, 2, y 3, en el espacio en blanco.

Recuerde que usted puede ampliar la lista. Si es así, por favor jerarquícela.

Preguntas

28. Los tres motivos más importante para aplicar en el trabajo lo que aprendí en el curso son:
    ___Mejorar mi experiencia y conocimiento
    ___Ser promovido a un nuevo cargo
    ___Impresionar a mis jefes con mi desempeño
    ___Ayudar a la organización a alcanzar sus metas
    ___Obtener una evaluación de desempeño favorable
    ___Otra: _____

29. Las tres fortalezas más importantes del sistema de evaluación de entrenamiento de DANAVEN son:
    ___Fácil de utilizar
    ___Permite la medición
    ___Orientado a obtener resultados
    ___Refuerza el compromiso de los entrenados para aplicar lo aprendido
    ___Permite generar indicadores de gestión
    ___Otra: _____

30. Las tres debilidades más importantes del sistema de evaluación de entrenamiento de DANAVEN son:
    ___Difícil de usar
    ___Exige tiempo para su aplicación
    ___Sus resultados son ignorados
    ___No agrega valor
    ___Requiere expertos
    ___Otra: _____

PARTE 3

Instrucciones

Complete la información solicitada en el espacio en blanco.
Si la respuesta es SI / NO, por favor coloque una X dentro del paréntesis después de la alternativa seleccionada.

31. ¿Cuántos años ha trabajado usted para esta compañía? _____

32. Cargo actual: _____

33. Recibí una invitación formal con el contenido del curso antes de su inicio

    Si ( ) No ( )

34. Participé en la negociación y registro de un contrato de aprendizaje (plan de acción) después de
    asistir al curso
    Si ( ) No ( )

¡¡MUCHAS GRACIAS POR SU COLABORACION!!!

APPENDIX J

PARTICIPANT INFORMED CONSENT

(INTERVIEW)

Dear employee:

You have been asked to participate in a research study conducted by Nerza Rey de Polanco, a doctoral student of Lynn University, U.S.A., as a requirement for her degree of Doctor of Philosophy in Corporate Leadership. The study attempts to demonstrate that the *application of pre and post-training evaluations* may increase the *training transfer rate* on the job successfully. According to the researcher's criterion, you are part of the target population accomplishing the necessary requisites to answer a set of tailored questions formulated during a *one-on-one interview* to be conducted by the researcher.

The purpose of the interview is to explore your opinion regarding the system used by DANAVEN to evaluate the training effectiveness. The interview will consist of five main open questions, which will be tape-recorded for a later analysis. The total time involved in your participation will be approximately forty five minutes. The information you provide will only be used for academic purposes and kept strictly confidential. As a result, any publication or public presentation regarding the results of this study will not reveal any individual opinion given by the interviewees.

Participation in this study is VOLUNTARY. In addition, you may withdraw from this study at any time without negative consequences, for any reason you deem necessary. If so, your data will be eliminated from the study and destroyed. If you do participate, the transcription of the interview will be registered with alphanumerical codes to protect your identity. The information gathered will be kept in a locked security place for a period of five years. After five years, the data will be destroyed.

Upon your request, a copy of the final research analysis will be provided to you at the conclusion of the research. If you have any questions about any aspect of this study or your involvement, feel free to contact the researcher through her telephone (0416-6402474) at any time. If you have concerns about this project that you do not want to address with Nerza Rey, you may call Dr. Fred Dembowski Dissertation Committee Chairperson, Lynn University, at 001-561- 237.7855.

Two copies of this informed consent have been provided. Please sign both indicating you have read, understood, and agreed to participate in this research. Please return one copy to the researcher and keep the other for your files.

Finally, the occasion is opportune to thank to DANA VENEZUELA's Board for their approval to conduct this research as well as the employees who have accepted to participate voluntarily in this study.

Name of Participant (please print)	Telephone Number
Signature of Participant	Date
Nerza Rey de Polanco, Researcher	Date

APPENDIX J1

CONSTANCIA DE CONSENTIMIENTO DEL PARTICIPANTE (ENTREVISTA)

Estimado trabajador:

A usted se le está solicitando participar en un estudio de investigación conducido por Nerza Rey de Polanco, estudiante de Doctorado en Lynn University, E.U.A., para optar al título de Doctor de Filosofía en Liderazgo Corporativo. El estudio intenta demostrar que la aplicación de *sistemas de evaluación antes y después del entrenamiento* podría incrementar *la tasa de transferencia del entrenamiento* al puesto de trabajo en forma exitosa. De acuerdo al criterio de la investigadora, usted forma parte de la población que cumple con los requisitos necesarios para responder un conjunto de preguntas formuladas durante una *entrevista individual* llevada a cabo por la investigadora.

El propósito de la entrevista es explorar su opinión sobre el sistema usado en DANA VENEZUELA para evaluar la efectividad del adiestramiento. La entrevista consistirá de cinco (5) preguntas principales abiertas, las cuales serán grabadas para su posterior análisis. El tiempo de la entrevista será aproximadamente de cuarenta y cinco (45) minutos. La información obtenida en la entrevista sólo será usada con fines académicos y mantenida estrictamente confidencial. En consecuencia, cualquier publicación o presentación pública de este estudio no revelará ninguna opinión individual emitida por los entrevistados.

La participación en este estudio es VOLUNTARIA. Adicionalmente, usted podría retirarse de este estudio en cualquier momento sin consecuencias negativas, por cualquier razón que juzgue necesaria. En este caso, la información que haya proporcionado será eliminada y destruida. Si participa en el estudio, la transcripción de la entrevista será registrada a través del uso de códigos alfanuméricos para proteger su identidad. La información recabada será resguardada por la investigadora en un sitio seguro y cerrado por un periodo de cinco años a cuyo término será destruida.

A su solicitud, copia de las conclusiones de este estudio podrá serle otorgada al finalizar la investigación. Si tiene alguna pregunta sobre cualquier aspecto relacionado con el estudio o con su participación, siéntase libre de comunicarse con la investigadora en cualquier momento al teléfono 0416-6402474. Si usted tiene alguna inquietud acerca de este proyecto que no desee tratar directamente con Nerza Rey podrá llamar al Dr. Fred Dembowski al teléfono 001-561- 237.7855, quien es Jurado-Presidente de esta investigación en Lynn University, E.U.A.

Dos copias de esta constancia le están siendo entregadas. Por favor firme las dos copias en señal de que leyó, entendió y está de acuerdo en participar en este estudio, devolviendo una copia a la investigadora y manteniendo la otra en sus archivos.

Finalmente, es oportuna la ocasión para agradecer a la Junta Directiva de DANA VENEZUELA por haber dado su aprobación para llevar a cabo esta investigación, así como también a los empleados que han aceptado participar voluntariamente en este estudio.

Nombre del participante (en letra de imprenta)	Teléfono
Firma del participante	Fecha
Nerza Rey de Polanco, Investigadora	Fecha

APPENDIX K

INFORMED CONSENT TO AUDIO-RECORD

I, _____, give permission so that this interview can be recorded by means of an audio recording device. I understand that the recording will be transcribed and coded for purposes specific to this research and will be maintained for a period of five years. At that time the recording and transcription will be destroyed. I also understand that the tapes and written materials derived from this recording will be handled with strict confidentiality criteria.

Name of Participant (please print)	Phone number
Signature of Participant	Date
Nerza Rey de Polanco, Researcher	Date

APPENDIX K1

CONSTANCIA DE CONSENTIMIENTO PARA LA AUDIO-GRABACION

Yo, _____, doy permiso para que esta entrevista sea audio-grabada por medio de un aparato de audio-grabación. Comprendo que la grabación será transcrita y codificada para los propósitos específicos de esta investigación y será resguardada por un periodo de cinco años, a cuyo término la grabación y la transcripción serán destruidas. También entiendo que las cintas y material escrito derivados de esta grabación serán tratados con estrictos criterios de confidencialidad.

Nombre del participante (letra de imprenta)	Teléfono
Firma del Participante	Fecha
Nerza Rey de Polanco, Investigadora	Fecha

APPENDIX L

Qualitative Questions

1. What is your opinion regarding the instruments used by DANA VENEZUELA to monitor training effectiveness?

2. Are you satisfied with the results gained from the training programs at a personal level? Explain what kind of key conditions have been present to allow/hinder you to apply the new KSA's on your job.

3. What are the most important motives to apply new KSA's on your job?

4. What are the most important strengths identified by you regarding the DANA VENEZUELA's current training evaluation system?

5. What are the most important improvement opportunities identified by you regarding DANA VENEZUELA's current training evaluation system?

APPENDIX L1

Preguntas Cualitativas

1. ¿Cuál es su opinión respecto a los instrumentos usados por DANA VENEZUELA para monitorear la efectividad del entrenamiento?

2. ¿Ésta satisfecho con los resultados que a nivel personal usted ha obtenido por la vía del entrenamiento? Explique qué tipo de condiciones claves le han permitido o impedido aplicar los nuevos conocimientos, habilidades y/o destrezas en su trabajo.

3. ¿Cuáles son los motivos más importantes que usted tiene para aplicar en el trabajo los conocimientos, habilidades y/o destrezas adquiridos en los programas de entrenamiento?

4. ¿Cuáles son las fortalezas más importantes que usted identifica en el sistema de evaluación del entrenamiento implementado actualmente por DANA VENEZUELA?

5. ¿Cuáles son las oportunidades de mejora más importantes que usted identifica en el sistema de evaluación del entrenamiento implementado actualmente por DANA VENEZUELA?

Appendix M: IRB Authorization

LYNN UNIVERSITY
BOCA RATON, FLORIDA

June 9, 2004

Nerza Rey de Polanco
Urb. Trigal Sur. Calle los Caobas
Sector # 86 B-311
Valencia - Edo. Carabobo
Venezuela

Re: 2004-015

Dear Mrs. Polanco,

Thank you for submitting the requested revised research protocol and the documentation of certified translations of the consent forms and the questionnaires in Spanish. The Institutional Review Board has given final approval of your proposal.

Sincerely,

Farideh Farazmand, Ph.D.
Institutional Review Board, Chair

cc. Dr. Dembowski
Dissertation Chair

3601 North Military Trail, Boca Raton, Florida 33431-5598
(561) 237-7000 www.lynn.edu