CHAPTER 2

REVIEW OF LITERATURE

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 training evaluation, transfer of training, transfer of learning, and its most relevant findings found by researchers in the field.

2.1 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 and 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.

2.2 EVALUATION OF TRAINING

Having an internal technical training service together with in-house programs in itself is no guarantee that something positive is being accomplished. Without evaluating the training service and programs, the impact of these on the organization’s results are unknown, and the return on investment (ROI) to the shareholders remains unjustified. Achieving an effective training service with effective programs requires that these by systematically evaluated to measure success, prioritize improvements, and articulate the benefits of such to the organization’s shareholders and stakeholders.
The theories and practice of evaluating training has, over the last decade, become more wanting, especially in organizations having training services. As organizations are constantly looking for ways to downsize and reduce costs, often the first resources to be slashed are training services. Training, like any other resource, must add value and positively impact the business results. From personal experience together with data researched toward this literature review, the need to cover both process and evaluation is important as there is a definite interconnectedness between the two.

Rae (2002) defines evaluation as program value and how cost effective it is in terms of the ROI. The evaluation process covers sixteen steps and includes a mid and long term follow. Rae’s model is evaluating the period and use of the program to determine the cost effectiveness to the business. The evaluation process from start to finish, involves extensive testing and trainers must account for the training value from start completion, and repeat the cycle each time a new request for training or new training program begins. Rae incorporates two collaboration steps with business stakeholders and concludes with an assessment report.

Phillips et al (2004) define evaluation training through a systematic process involving eighteen steps that looks at the value training brings to the organization. The evaluation process is separated into logical detailed steps, each one adding value to the next. His evaluation starts after a request for training, and finishes with the need to communicate the program results.

The Ultimate Business Directory (2003) defines evaluation as a continuous cycle of clarifying the training objectives, conducting a training needs analysis, delivering training, assessing reactions to training, and finally measuring the bottom-line effects the training achieved.
Fenwick and Parsons (2000) refer to traditional training and evaluation of programs using learner objectives as the foundation for the learning process and for grounding evaluation. These authors write that before thinking about how to evaluate a technical skill, one needs to understand what is involved in the process of learning a skill. The term technical originates from the word technology, technical skills infer the ability to use technology to perform specific procedures that involve action and decision making (Fenwick and Parsons, 2000). One example of technical skill is to know how to operate a forklift; another might know how to operate a lathe machine. Most educators separate knowledge into two forms: factual and procedural knowledge. Factual knowledge is considered as “content” to name the part of the forklift, stating the relevant safety precautions, or listing the procedures. Procedural knowledge is knowing how to perform certain actions such as operating the forklift independently, safely and efficiently. The purpose and evaluation process consists of nine steps ensuring that learning objectives are achieved through having an effective program.

Logical steps consist of an input-output process that focuses on achieving desired performance. Acting on a performance situation that is not acceptable, this triggers the need for training. Evaluation of training is usual from a learner perspective; Fenwick and Parsons (2000) refer to Laird’s 1985 traditional training model of evaluation, where a baseline is established through observing performance. Observation can consist of watching the expert(s) or target group with the performance situation, learner objectives are then established together with measurable criteria, the training takes place, a “terminal test” job tryout is next so the learner can demonstrate successful achievement and performance of the objectives. Final evaluation then concludes if the performance situation improved enough to justify the trading costs. Fenwick and Parsons (2000) refer to four attributes of good program evaluation; (a) Utility: Evaluation produces data to meet the information
needs of its users, (b) Feasibility: Evaluation is realistic, diplomatic and prudent, (c) Propriety: Evaluation is legal, ethical, providing for the welfare of those being evaluated and users of information, (d) Accuracy: Evaluation reveals and technically conveys adequate information about the features that determine the worth or merit of the program being evaluated.

Mager (1999) similar to Fenwick and Parsons, defines evaluation as what effect the training has on improving worker performance; training is only effective when one or more people don’t know how to do something that they need to be able to do. The training approach consists of a systematically designed performance-based course (Mager 1999). Training is then offered to facilitate performance; the trainer’s role is to provide the necessary knowledge, skills and self-efficacy to the learners to achieve the desired performance. Mager (1999) also agrees with the Ultimate Business Directory evaluation in applying a needs analysis as part of an effective training service.

Kirkpatrick and Kirkpatrick (1998) are eminently recognized as a subject matter expert in the field of evaluation. The Kirkpatrick model of evaluation is widely used and has stood the test of time among training and development experts. They state that there are nine steps in the process leading up to the tenth step which is the actual evaluation step of the process; all nine steps need to be carefully considered when planning and implementing and effective training program. Their ten step process focuses mainly on the logistics of the program starting with needs analysis, setting objectives, subject content, selecting participants, and best schedule through to final evaluation as the tenth step (p.3). Kirkpatrick and Kirkpatrick (1998) state in general terms that there are three specific reasons why people need to evaluate training: (a) to justify the existence of the training department by showing how it contributes to the organization’s objectives and goals, (b) to decide whether to continue or discontinue training programs, (c) to gain
information on how to improve future training programs, this being the most common reason (p.18). The Kirkpatricks base their evaluation model on the assumption that a formal process covering nine steps has to be completed prior to actual program evaluation. They use a four level model to evaluate programs. Level one measures how those who participate in the program react to it, often referred to as customer or learner satisfaction. The next level is learning related to participants changing attitudes, improving knowledge, and or increasing skill as a result of attending the program. Behavior is next as the extent to which a change in behavior occurred as a result of attending the program. And finally, results that have occurred from attending the program can include increased production, improved quality, higher profits, decreased costs, waste and accidents, and reduced turnover. Critical to justifying the results from training is that these elements be reviewed prior to the training and then measured after training.

Phillips et al (1998) have reasonably similar processes of evaluating training programs, although their steps and terminologies are slightly different one from the other. Their concepts and end results achieve the same outcomes. They differ from Fenwick and Parsons in the sense that they focus on business value while Fenwick caters purely for the learners’ needs and to achieve a desired performance level.

Other authors such as Hamblin et al and Buckley and Caple are also recognized in the area of training and development and have similar process models to that of Kirkpatrick’s tenth step of evaluation. Warr et al (1970) step of “context evaluation” identifies a performance problem in the organization that can be eliminated through training. Hamblin’s (1974) process is similar to Kirkpatrick’s, but has a “functioning” step that quantifies the effect the training event has on the learners’ department or organization in terms of cost benefit. Where Buckley and Caple (2004) differ slightly from
Kirkpatrick, they look at the value and effects of training in the organization over a longer period of time to determine the cost benefit.

Kirkpatrick’s model is widely applied and accepted because it originated as one of the first models of evaluations which created the foundation for others to build on. Both and Rae and Phillips models have been criticized as imitations of the Kirkpatricks work. While some suggest that the Kirkpatrick model is outdated, it is still extensively used with much success (see Figure Example 1). Today, theorist still disagree on which model is superior; the secret lies in those who try and test them and even customize them to suit individual expertise levels and specific circumstances. What’s even more important is not what process or model is used but how it is demonstrated that ROI was achieved from the training. ROI is normally calculated after the evaluation is complete and compares the monetary value of the training results with the cost for completing the program. This is usually expressed as a percentage or cost benefit ratio (Phillips).

ROI is another area that authors don’t all agree on; Kirkpatrick and Kirkpatrick (1998) cautions trainers and the like to consider more balanced approaches to ROI through using performance measurement tools. They writes that measuring ROI has three shortfalls: (a) doesn’t capture all strategic initiatives, (b) creates a snapshot towards the end of the program and gives little direction for the future, (c) ROI is only one indicator from several others and is not a good diagnostic tool. Phillips has written and entire book on ROI as a viable method of evaluation; the book offers an objective approach to training and is a good resource for those wishing to evaluate ROI. The purpose of ROI is to prove to management that training is an investment and not an expense. If training addresses knowledge, skills and behaviors, it can be difficult placing a cost associated to behavior changes. Justification should consider various methods to identify the real costs and returns from training.
When it comes to what aspects determine quality training and how can these be applied to achieve effective training programs, there is a plethora of literature available to researchers that mostly relates quality training to business excellence. From a training and development perspective, quality training is achieved when training takes place through a formal systems approach or process that applies logical steps and best practices throughout the full training cycle. Quality training starts with the formal needs analysis and ends with formal evaluation and follow up. Quality training can and will be achieved through understanding and applying any of the processes and evaluation.

At the beginning of 2005, Trans Alta budgeted $8.4 million for training and at year end had actually spent $5.7 million. Very little evaluation took place and if it did happen it was not through a formal evaluation process. Business leaders that have field training advisors directly reporting to them, to not hold training advisors accountable for evaluating training. Training advisors are not committed to evaluating their training service and programs. Until those who own, implement, and spend training dollars are held accountable, training services and training programs will continue to run unevaluated without demonstrating their worth to the organization, shareholders and stakeholders.

According to the Sugrue and Rivera (2005) state of the industry report, training evaluations occurred at the following rates: level one (employee reaction) 91%; level two (employee knowledge) 54%; level three (transfer of training to the workplace) 23%; level four (impact on business) 8%; and level five (monetary impact of the training) 3%. The ASTD researchers found that sales training programs were the most likely to be evaluated at levels three and four while executive development programs were most likely to be evaluated at level five. The general consensus is that
training evaluation is a critical and important phase of the program development process; however, this step is often neglected.

Attia et al (2002) provide three reasons why this is so. First, training has been limited historically; training budgets have been reduced annually consistently since the 1970s. Second, the academic analysts have criticized evaluation efforts, asserting that they provide weak practical guidance. Third, trainer anxieties result in a desire to avoid performance appraisal unless the outcome is guaranteed to be positive. Four decades after training evaluation started to decline, it has emerged as a specialty market. Unlike conventional markets, training evaluation is not supported by natural or physical resources but instead, relies on, and is sustained by, training measurement and evaluation research for theory building and methodology development (Wang et al 2002). However, without evaluation, human resources department personnel will struggle to gain the confidence of upper management. Therefore, training evaluation is gradually becoming a necessity in those organizations in which a training program has been implemented. Measuring training effectiveness serves as an important asset for organizations.

The purpose of evaluation is to create a double feedback loop, or a self-correcting training system (Rackham et al 1971), guiding training efforts toward success, rather than establishing after-the-fact accountability. In addition, the primary function of evaluation for training is to enhance a trainee’s knowledge, skills, and ability to improve his or her performance. Measuring the success of training involves several criteria, including direct as well as indirect cost, efficiency, performance based on schedules, reactions, learning, behavioral changes, and performance changes (Shepherd 1999). Based on the system approach to training, training design incorporates needs assessment, design, development, delivery, and evaluation. Although
evaluation is named last on the list, this does not signify that it is least important. In fact, training evaluation plays a significant role for ensuring program quality, for performance improvement and for improving future training programs (Spitzer 1999). According to Spitzer, evaluation is the tool that can turn training into a powerful force for improvement of the business for both the organization and the people in it. Moreover, a valuable and encouraging feedback system will assist training designers in setting goals, monitoring the training process toward those goals, and looking for evidence that the training programs have already achieved the goals. The more confidence that trainers feel in regard to their interventions, the more willing they will be to look for meaningful ways to keep score of the outcomes, such as performance, which emphasizes the skill or expertise required to complete something according to established procedures (Rothwell and Kazanas 1998).

Generally, trainees will not apply what they learn from training if they are dissatisfied with the training experience. Evaluation provides an opportunity for training designers to develop better a understanding of the participants’ satisfaction with program design and implementation.

Thus, evaluation ensures the quality of a current training program and acts as a guideline for design and improvement of future training. Evaluation should be considered and applied throughout the entire systems approach. Rothwell and Kazanas indicated three primary reasons why training evaluation is needed. First, training evaluation provides information on how to improve future training programs. Second, the evaluation of training aids trainers in determining whether to continue or discontinue training programs. Finally, training evaluation justifies the existence of the training department by showing how it contributes to an organization’s objectives and goals.

Kirkpatrick (1996) wrote that the purpose of evaluations is to identify the existing value, quality, and contribution of training programs in order to make sound training investment decisions that will provide information for future
improvement. He (1996) identified four levels of outcomes of training: reaction, learning, behavior (transfer), and organizational results, which are hierarchically ordered (Blanchard et al 2000). Kirkpatrick emphasized that evaluators cannot bypass the process of four levels because these processes are interrelated and sequenced to measure training effectiveness.

Despite some criticism (Holton 1996), Kirkpatrick’s four-level model is the most generally accepted by academics (Phillips 1996) and also the model most widely used in organizations (Bates 2004). The reaction level outcomes are measured first, usually by a short survey; these factors influence how much can be learned. Learning outcomes measure the amount of learning that results from training and determine how much behavior can change back on the job. A written test or demonstration of performance are the measures used. Behavior change measures the degree of transference from what was learned to how the trainee behaves on the job, which in turn determines how much organizational impact the training can have. This is measured by self-report, or observation by a supervisor or third party. Finally, the fourth level (results) is a measure of the organizational impact as a result of the training. To determine the effectiveness of training, Kirkpatrick (1996) stated that training must be evaluated at all four levels. The assumption here is that all training should be designed to accomplish goals in all four areas of particular importance is the assumption that effective training means that learning has transferred to the job, and that organizational outcomes are improved as a result (Phillips 1996, Blanchard et al 2000).

Some researchers suggest that only by evaluating each level in Kirkpatrick’s hierarchy will an organization be able to understand the full effects of the training program (Hamblin 1974, Newstrom 1978). Since Kirkpatrick established his original model in 1959, other theorists (for example, Phillips 1996), and indeed Kirkpatrick himself, have referred to a
possible fifth level – namely return on investment (ROI). In addition, learning evaluation has become a widely researched area. While Kirkpatrick’s model is not the only one of its type, it is suitable for most industrial and commercial applications; indeed, most organizations would be more than happy if their training and learning evaluation – and thereby their ongoing personnel development—were planned and managed according to Kirkpatrick’s model (Lin and Chiu 1997). As a means of comparison, the discussion now turns to several other models. From the studies already mentioned, it is clear that, after spending a lot of money and time to train employees for a specific set of goals, such as using an administrative program, it is reasonable to determine to what extent trainees have met the goals. Based on that knowledge, an HR manager will make the decision to continue teaching the program as it is, or to remove it totally. Without that knowledge, the result may be merely wasted time. There is general agreement that evaluation is a critical and important training phase, however, it is often the most disregarded (Phillips 1996) or considered as optional or too expensive (Werner 2001).

The evaluation of training outcomes is complicated and multidimensional and the most common restrictions on program evaluation in Taiwan are time and money (Lee and Hsin 2004). Factors used to measure the effectiveness of a training activity can be grouped into four categories: changes in behavior; changes in attitude, knowledge, and skills; measurable and tangible results; and reactions by participants. Common types of evaluation data, such as reactions to training, often suggest that training is very effective. However, these data may not provide training designers with useful information for restructuring training or determining whether or not training increases learning or is transferred back to the job.

In an organization, the decision maker is in a position to decide the future of the organization. Evaluation is a critical component in effective and
efficient training, and it is unfair to learners to expect improvement of their performance on the job unless the training has been proven to be effective through rigorous evaluation. Therefore decision making about the level of training required becomes a critical issue for HRD professionals in an organization. They do not need to go through the whole process of the four levels. Instead, they should make the decision to choose the level that will meet the needs of their business by looking at its particular characteristics.

Typically, a systematic approach to training often includes four stages, as mentioned by Santos and 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 and 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 and Sells 1989 in Santos and 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 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.

2.3 TRAINING EVALUATION MODELS

Many contributions to evaluation of training, in both economics and HRD have been made from the literature of the 50s. Donovan and 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 et al (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”.

Table 2.1 shows Kirkpatrick four level model, shows the level connections and tools used to measure those levels.
### Table 2.1 Kirkpatrick four level model,

<table>
<thead>
<tr>
<th>Level</th>
<th>Issue</th>
<th>Question answered</th>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reaction</td>
<td>How well did trainees like the course?</td>
<td>Rating sheets</td>
</tr>
<tr>
<td>2</td>
<td>Learning</td>
<td>How much did they learn?</td>
<td>Test. simulations</td>
</tr>
<tr>
<td>3</td>
<td>Behavior</td>
<td>How well did they apply it at work?</td>
<td>Performance measures</td>
</tr>
<tr>
<td>4</td>
<td>Results</td>
<td>What return did the training investment yield?</td>
<td>Cost-benefit analysis</td>
</tr>
</tbody>
</table>

Source: Parry, Scott (1977)

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 et al 1975, Latham et al 1975) by demonstrating that satisfaction with learning, and behaviour 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 behaviour change.

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 and 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 and Hannigan 1999, p. 10).

Another interesting reflection given by Donavan and 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.

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 and 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 and 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 and Hannigan (1999).

2.3.1  **Warr, Bird and Rackham’s Model**

The acronym CIRO suggested by Warr et al (1970), stands for evaluation of context, input, reaction and outcome. Santos and 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.

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

### 2.3.2 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 and 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. It seems that the central difference among these approaches is related to the way of understanding how the evaluation process occurs. In Santos and Stuar’s (2003) terms:

The evaluation process is organized in a sequential, linear manner. Thus, higher-level outcomes can only be understood if evaluation had 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. Warr et al (1970) and Kirkpatrick (1994) recognize, however, that the cause-effect chain is often difficult to demonstrate, especially regarding to ultimate level evaluations.

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

Table 2.2 offers a comparative summary, which describes the three models cited earlier.

An analysis 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).
<table>
<thead>
<tr>
<th>Models</th>
<th>Items</th>
<th>Authors</th>
<th>Evaluation</th>
<th>Levels</th>
<th>Premises</th>
<th>Typical Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAIPO</td>
<td>Easterby-Smith</td>
<td>(1986)</td>
<td>Context: Level of support for learners at the workplace</td>
<td>Administration: Mechanisms of nomination Follow-up pre-activities. E.g. debriefing by line manager, design of post evaluations</td>
<td>Input evaluation: Program Content</td>
<td>Process evaluation: Looks at what happens during a training activity and how the participants experience</td>
</tr>
<tr>
<td>CIRO</td>
<td>Warr et al</td>
<td>(1970)</td>
<td>Context: Identification of training needs Setting of objectives</td>
<td>Input: Instructional design Delivery of activities</td>
<td>Reaction: Looks at gaining and using information about the quality of trainees’ experiences.</td>
<td>Outcome: a) Immediate evaluation: measures changes of KSA’s before a trainee returns to the job</td>
</tr>
<tr>
<td>Four Level Model</td>
<td>Donald Kirkpatrick</td>
<td>(1958)</td>
<td>Context: Level of support for learners at the workplace</td>
<td>Input evaluation: Program Content</td>
<td>Process evaluation: Looks at what happens during a training activity and how the participants experience</td>
<td>Outcome: Focuses on individuals and changes in their KSA’s and behaviour, as well as individual and/or Performance or on shifts in organization culture and climate.</td>
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<tr>
<td>Models</td>
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</tbody>
</table>
The literature reports an interesting tendency to follow those non-sequential models such as the Easterby-Smith’s framework. Researchers such as Noe (1986), Dixon (1990), Mathieu et al (1991), Ford et al (1992), Rouillier and Goldstein (1993), Lewis (1996), Holton (1996), Tracey (2001), Tziner and Haccoun (2002), have studied numerous factors affecting the transfer of training. For instance, Holton (1996) recognizes, “A variety of influences on transfer motivation have been suggested (Broad and Newstrom 1992, Balwin and Ford 1998) and fall into four categories: intervention fulfillment, learning outcomes, job attitudes, 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 and 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 and 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.

2.3.3 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 2.3 Jack Phillips Evaluation Levels

<table>
<thead>
<tr>
<th>Level</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction and Planned Action</td>
<td>Measures participant satisfaction and planned actions</td>
</tr>
<tr>
<td>Learning</td>
<td>Measures changes in knowledge, skills, and attitudes.</td>
</tr>
<tr>
<td>Job Applications (transfer)</td>
<td>Measures changes in on-the job behavior</td>
</tr>
<tr>
<td>Business Results</td>
<td>Measure changes in business impact variables</td>
</tr>
<tr>
<td>Return on Investment</td>
<td>Compares program benefits to the costs.</td>
</tr>
</tbody>
</table>

Source: Phillips (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.

2.4 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 and 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.

2.4.1 Trainability and Motivational Theories

Trainability is hypothesized as a function of three factors: ability, motivation, and perceptions of the work environment \( \text{Trainability} = f(\text{Ability, Motivation, Work Environment Perceptions}) \) (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. The include the theories of expectancy, equity, and goal setting.

2.4.2 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 and 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: (cited in Yamnill and 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 and 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.

In order to provide a general picture about the expectancy theory, is shown in Figure 2.1, the expectancy theory equation and the drivers behind them.
2.4.3 **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 ration.

![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).

### 2.4.4 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 et al 1981, cited in Yamnill and 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 and Latham 2002) Yamnill and 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 et al 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.

2.5 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 and 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 skills 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 and 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, Swatrz (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.

Baldwin and Magjuka (1991) examined intention to transfer training by considering the pre-training expectations and post-training intentions of 193 employees attending a variety of different training programs in the engineering department of a major Midwestern manufacturing organization. Their study found management signals, trainee perceptions, and trainee motivation to learn impacted training outcome and learning transfer. The study addressed three questions: (1) What are the signals of organizational importance? (2) How are these signals manifested in training interventions? (3) Are important training signals associated with post-training outcomes? The researchers conducted a descriptive pilot study to answer the first two questions, while the third question was empirically tested. Results of the empirical study indicated that trainees reported greater intentions to transfer learning to the workplace when they received information prior to the training program, recognized that they would be accountable to their supervisor, and perceived a program as mandatory. This study indicates situational/environment factors may impact trainees’ motivation to transfer training to the job.

2.6 MOTIVATION TO TRANSFER TRAINING

The current study examines the impact of a number of antecedents on trainee motivation to transfer training. Researching these antecedents may help to provide information concerning the conditions under which training works, rather than only information of whether the training is effective (Baldwin and Ford 1988, Campbell 1988, Tannenbaum and Yukl 1992). Not only looking at what happens after the training program has been delivered,
the following also has to be look at (1) those variables in the pre-training environment that can possibly influence trainee reaction to training, and thus training outcome, and (2) whether information the trainee learns is likely to be transferred to the job. If post-training motivation can be measured to transfer training, another indicator of whether the training received will be transferred to the job to eventually enhance organizational productivity. If the predictors examined in this study help identify variables that can be manipulated (e.g. situational characteristics such as perceived supervisor support and individual characteristics such as general self-efficacy), then organizations will have more resources for enhancing the likelihood of training transfer to the workplace. Some researches have indicated that the post-training as well as pre-training environments should be considered as factors of both types can influence the transfer process. Transfer may be encouraged or discouraged by the type of rewards, job aids, and equipment in the environment at work, or by the way peers and superiors interact with trainees before or after training participation (Bladwin and Ford 1988, Baldwin and Magjuka 1991, Tannenbaum and Yukl 1992).

2.7 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 (Mosel 1957, Byham et al 1976, Noe 1999).

Baldwin and 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 Figure 2.3.

<table>
<thead>
<tr>
<th>Training Inputs</th>
<th>Training Outputs</th>
<th>Conditions of Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trainee Characteristics</td>
<td>Learning and Retention</td>
<td>Generalization and Maintenance</td>
</tr>
<tr>
<td>- Ability</td>
<td>- Principles of learning</td>
<td>- 1</td>
</tr>
<tr>
<td>- Personality</td>
<td>- Sequencing</td>
<td>- 2</td>
</tr>
<tr>
<td>- Motivation</td>
<td>- Training Content</td>
<td>- 3</td>
</tr>
<tr>
<td>Training Design</td>
<td>- 4</td>
<td></td>
</tr>
<tr>
<td>Work Environment</td>
<td>- 5</td>
<td></td>
</tr>
<tr>
<td>- Support</td>
<td>- 6</td>
<td></td>
</tr>
<tr>
<td>- Opportunity to Use.</td>
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</tbody>
</table>

**Figure 2.3 Baldwin and Ford’s Model of the Transfer Process**


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 and 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 and Karakowsky (1999), and Tracey et al (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.

i) 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.

ii) Baldwin and 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.

iii) Hicks and 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.

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

v) 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 and Erik 2003). Some contributions to this line of inquiry are:

i) Holton et al (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.

ii) Mathieu et al (1992) found that perceptions about situational constraints in the workplace had a negative effect on pre-training motivation, which in turn influenced training effectiveness.

iii) 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.

iv) 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 behavior” (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 and Goldstein 1993, Tannenbaum and Yukl, 1992, Holton et al 1997, Kirkpatrick 1998, Baldwin and 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 cultural 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).

2.8 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.

![Diagram](image.png)

**Figure 2.4 An Integrated Multilevel of Transfer of Training Approach**

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:
i) Broad and Newstrom (1992), who outlined a series of strategies for managing the transfer of training focuses 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).

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

iii) Baldwin and 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.

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

v) 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.

vi) 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 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.
<table>
<thead>
<tr>
<th>Pre - training Goals and Strategies</th>
<th>Goals :</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Improve trainee’s motivation to learn</td>
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<td></td>
<td>2. Improve trainee’s pre - training self efficacy knowledge</td>
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<tr>
<td></td>
<td>3. Demonstrate organizational support for training.</td>
</tr>
<tr>
<td></td>
<td>Strategies :</td>
</tr>
<tr>
<td></td>
<td>1. Use of goal setting,</td>
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<tr>
<td></td>
<td>2. Allow trainees to participate in decision making,</td>
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<tr>
<td></td>
<td>3. Provide information concerning the purpose and intended outcomes of training,</td>
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<td></td>
<td>4. Reduce any perceived threat to the trainee,</td>
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<td></td>
<td>5. Help the trainee to develop better learning strategies,</td>
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<tr>
<td></td>
<td>6. Develop a plan for how the trainee will utilize their training,</td>
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<td></td>
<td>7. Identify external factors that may restrict the trainee’s ability to utilize their training, and</td>
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<td>8. Assist the trainee to identify organization valuable outcomes from training.</td>
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</table>

<table>
<thead>
<tr>
<th>Post - training Goals and Strategies</th>
<th>Goals :</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Improve the climate for the transfer of training,</td>
</tr>
<tr>
<td></td>
<td>2. Improve the vertical transfer of training.</td>
</tr>
<tr>
<td></td>
<td>Strategies :</td>
</tr>
<tr>
<td></td>
<td>1. Provide trainees with specific goals from proved performance resulting from transfer of training,</td>
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<tr>
<td></td>
<td>2. Ensure supervisors and co - workers are supportive of the trainees attempts to transfer their training,</td>
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<tr>
<td></td>
<td>3. Ensure trainees have access to equipment or resources that are essential to the transfer of their training,</td>
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<td></td>
<td>4. Positively reinforce better performance,</td>
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<td></td>
<td>5. Reduce barriers such as lack of time or opportunity to perform the tasks trainees learned during their training,</td>
</tr>
<tr>
<td></td>
<td>6. Train all members of a work unit at the same time,</td>
</tr>
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<td></td>
<td>7. Monitor post - training performance, and</td>
</tr>
<tr>
<td></td>
<td>8. Align training with organizational goals and directions.</td>
</tr>
</tbody>
</table>
**Table 2.4 (Continued)**

<table>
<thead>
<tr>
<th>Within - training Goals and Strategies</th>
<th>Goals :</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Improve trainee’s understanding and adaptive expertise,</td>
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<tr>
<td></td>
<td>2. Improve trainee’s intentions to transfer, and</td>
</tr>
<tr>
<td></td>
<td>3. Improve trainee’s reactions to training.</td>
</tr>
<tr>
<td></td>
<td><strong>Strategies :</strong></td>
</tr>
<tr>
<td></td>
<td>1. Use procedures in training are similar to those used in the work place</td>
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<tr>
<td></td>
<td>2. Use real - life problems that the trainee is familiar with</td>
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<td></td>
<td>3. Provide different examples during training and highlight the important features of each example,</td>
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<td></td>
<td>4. Assist trainees to develop detailed, well integrated knowledge structures, and skills such as planning, monitoring, and evaluation,</td>
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<td></td>
<td>5. Set short - term goals for the immediate transfer of their training</td>
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<td></td>
<td>6. Set longer - term goals that focus on the mastery of the training</td>
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<td></td>
<td>7. Assist trainees to develop and commit to specific implementation plans</td>
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<td></td>
<td>8. Use Relapse Prevention as a tool to identify specific situations where they may be at risk of failing to utilise their training, and</td>
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<tr>
<td></td>
<td>9. Create a positive training climate</td>
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</tbody>
</table>

Source : Machin (2000)