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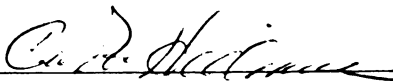
**A COMPARATIVE STUDY OF SUPERVISOR IMPACT ON THE
TRANSFER OF TRAINING AS MEASURED BY
JOB PRODUCTIVITY, EFFECTIVENESS
AND SATISFACTION**

presented by

Lynn D. Bradfield

has been accepted towards fulfillment
of the requirements for

Doctor of Philosophy degree in Department of Education


Major professor

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By
Lynn D. Bradfield

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ABSTRACT

A COMPARATIVE STUDY OF SUPERVISOR IMPACT ON THE TRANSFER OF TRAINING AS MEASURED BY JOB PRODUCTIVITY, EFFECTIVENESS AND SATISFACTION

By

Lynn D. Bradfield

The purpose of this study was to examine the effects of various methods of supervisor reinforcement on the transference of training to on-the-job performance as indicated by measures of job productivity, effectiveness and satisfaction.

Employee/supervisor work groups in three treatment groups (A, B, and C) received support and reinforcement of training from their supervisors. Only supervisors in treatment Group A received reinforcement follow-up support from the company training department staff. Group B work groups were provided with the opportunity to observe the modeled reinforcement of Group A supervisors. Group C served as a control group for supervisor follow-up and reinforcement, and the modeling environment.

Four dependent variables were used for this research. First, perceptions of course quality were measured by an end-of-course evaluation. The second variable, job satisfaction, was measured in a pretest-posttest fashion by

the Minnesota Job Satisfaction Questionnaire. The last two variables, productivity and effectiveness, utilized on-the-job performance measures from existing computerized reports.

Hypotheses testing resulted in the following findings:

1. Employees who's supervisors were supported by the training department showed a statistically significant increase in productivity over employees who's supervisors provided self-directed reinforcement.

2. Employees who's supervisors were supported by the training department showed a statistically significant increase in effectiveness over employees who's supervisors provided self-directed reinforcement.

3. Both supervisors and employees felt positive about the content and relevancy of the training.

4. Although not statistically significant, supervisors supported by the training department showed an increase in job satisfaction over supervisors providing self-directed reinforcement.

5. Although not statistically significant, employees who's supervisors were supported by the training department showed an increase in job satisfaction over employees who's supervisors provided self-directed reinforcement.

Based on this study's findings, supervisors responsible for reinforcing employee on-the-job training will be more successful if provided actual or modeled support.

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CHAPTER I

INTRODUCTION

In corporate America today, getting results is what matters. Structures for accountability and rewards exist in almost every facet of the business environment. The primary function of such structures is the reinforcement or achievement of results. Manufacturing lines are held accountable for rate of output and high quality; selling functions, for sales and earnings; engineers, for the design of machinery, which increases productivity and improves quality. Training functions, however, usually are held accountable for their activity in terms of number of programs offered; participants who attended, and costs for materials, external vendors, and audiovisual equipment. There is little or no accountability for long range impact or results of training activities in regard to improved employee ability and productivity. (45,62)

Skill transfer from the classroom to the job is frequently a concept which receives little or no attention. Trainers have only just begun to realize that regardless of how well needs are assessed and instruction delivered, training efforts will do very little good if they do not

improve job performance. Instruction can provide people with new information, insights, and skills, it cannot guarantee that they will then be applied on the job. For this reason, all training events should be designed and implemented with an eye toward the conditions in which learning will have to be applied. Thus the most important role of training is that of the person or persons responsible for the training transfer. Unfortunately, the little research that has been done in this area shows that training practitioners do not spend much time on ensuring that what they teach is transferred back to the jobs of the employees. (62,55)

Generally, the training department's major purpose is to offer and deliver courses that provide employees with skills and knowledge, and to do so in a high-quality learning environment. Whether the learning experience is delivered in a classroom or by other means, the end-of-course evaluation is often the only evaluative tool. While they do provide valuable information about the program, such evaluations do not collect data about the application of new knowledge or skills to the job. (62,24,32) On-the-job application of training, if considered, is the responsibility of the employee and his/her supervisor. Unfortunately, most supervisors have no idea of how to reinforce or even what type of reinforcement would facilitate or increase the likelihood of on-the-job transfer of training. Most do not even realize that they should

reinforce training. Employees are left to their own devices or inclinations regarding the utilization of training in daily job activities. (62)

Recent statistics compiled by the American Society for Training and Development indicate that both investment in training and development and the role of training in meeting business objectives will increase over the next three years. Currently, 63% of 225 Fortune 500 companies provide training to over 20% of their employees. This is up from 1987 when a U.S. Census report on training in America reported that only 10% of all U.S. employees received employer provided training. (47, 3) Based on this information, projections indicate that training activities will continue to grow. However, the size of that growth, as always in the business arena, will depend largely on the ability of training to demonstrate added value to the company.

As companies continue to face a stagnant economy, they will be forced to make better use of their workforce if they hope for growth and profitability. Companies in recent years have begun to focus on designing more effective employee recruitment, selection and training practices. These practices are designed to improve the quality of the workforce pool and, ultimately, productivity. (32) Thus, it appears that management out of necessity is or very soon will be actively involved in the training process ... ensuring that training is transferred to the worksite. (55)

With these elements in operation, it is the general purpose of this study to explore and compare the impact of training on employee job satisfaction, productivity and effectiveness when training transfer is encouraged and reinforced by the on-the-job supervisor.

Statement of the Problem

Transfer of training is of paramount concern for training researchers and practitioners. Despite research efforts, there is a growing concern over the "transfer problem". The conditions of transfer include both the generalization of learned material to the job and maintenance of trained skills over time on the job. (3) A central idea in training for the last 20 years has been that knowledge and skills are different and need different training methods. (55)

Business and Industry Managers have through hit and miss come to the realization that knowledge can be taught in the classroom effectively and relatively inexpensively. However, skill training presents another matter. To simulate a skill in the classroom, the learner must perform using role plays, case studies, actual practice or similar methods. (55) Such simulations have a couple of problems:

- * They are seen as artificial, particularly to experienced or seasoned learners.
- * There is never sufficient time in the average program to provide enough repeat practice for actual acquisition of the skill.
- * Even if learners sufficiently demonstrate skills during classroom training, most lose or forget

the newly acquired skill upon returning to their work environment. (55)

Because training involves making change, many training sessions do indeed provide reinforcement during the training session, but not afterward. The trainee returns to his/her job stimulated, even motivated to try out some new ideas. However, the rest of the work environment has not changed. There are problems associated with change in an organization; people resist it and cling to comfortable habits. Pressures of deadlines, budgets and bosses sabotage change. (34)

Few people can really make a significant change without the opportunity to practice in a "safe" way. The initial momentum of a training session will never last very long without a series of "booster shots". (34)

It is because of this that many of the larger, more experienced corporations are moving their skills training out of the classroom and into the job where daily situations create realistic opportunities to develop skills. Repeated practice and reinforcement over an extended time is also available. (48,55)

As mentioned earlier, it does not matter how expertly skills are taught and demonstrated in the classroom, unless they are followed up and reinforced on the job, most of their effectiveness will be lost. (51) XEROX Corporation, after several studies found, that the absence of on-the-job follow-up coaching could create a loss of as much as 87% of the skills gained during a training program. (56)

XEROX conducted a practitioner study to analyze the effectiveness of coaching on one group of branch sales people. The branch selected was a poor performing unit and had been so for several years. Conventional classroom training had not improved results so XEROX implemented a coaching program. The program provided branch managers with coaching methods and techniques for analyzing sales skills. Within only two months the branch showed marked improvement. The increase was one of quality and skill, not just more business calls. (60)

XEROX found that skills learned in a classroom setting become awkward and uncomfortable when the employee tries to implement them back at the worksite. New skills do not bring instant results. Initially, employees attempting to use new skills go through an awkward period, illustrated in the decline in Figure 1.1, where the newly acquired skill does not feel natural and is not bringing results. This period is often called "results lag" or "performance dip". This is the time it takes a learner to become effective in utilizing their new-found skill. If the learner does not make it through this performance dip he/she will lose the new skill. However, those that persevere gain the expected rewards as Figure 1.1 shows. (60)

Figure 1.1

Transfer of Skill Training

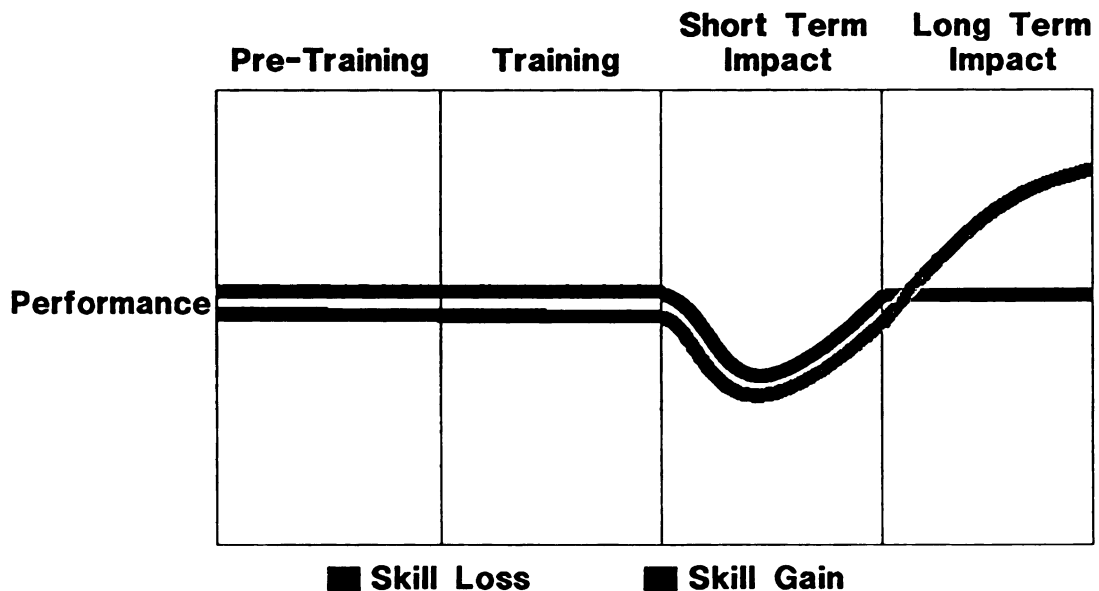


Figure 1.1 illustrates two types of behavior that may result from the training transfer process. During training, skills are taught or enhanced with little or no change in performance as demonstrated by the flat line. People leave the training program planning to use some or all of what was taught. Back on the job, they attempt to use the new skills and find that their performance dips below what it was before training. This performance dip is illustrated by the decrease during Short Term Impact. It is immediately after training, during the performance dip, that new skills are most vulnerable to extinction. If the work environment does not support and encourage learners to use the skills (even though initial results may be disappointing), and if supervisors are not prepared to coach and reinforce the skills and if learners are punished for reduced results

rather than rewarded for using these new approaches or techniques, then skills will disappear resulting in the SKILL LOSS CURVE demonstrated in Figure 1.1. However, if learners are using the skills after the training program and the work environment is reinforcing the use of the new skills a SKILL GAIN CURVE will occur over time and it will surpass previous performance. (60,62)

Few learners make it through the performance dip unless they receive coaching or reinforcement, they cannot maintain the newly acquired skill. Alan Gist in "Helping Adults Apply What They Learn", indicates that most people will try the new skill for a little while, then find it awkward and uncomfortable. The new skill is not bringing about instant results, so they go back to their old ways. (46) According to XEROX and numerous other studies, once the learner makes it through the performance dip, when the new skills start bringing actual results, the learner's success will become self-reinforcing. (34,46,52,59,60,62,70)

Since relatively few longitudinal studies have been completed for business and industry, it is difficult to determine the degree to which training needs to be reinforced in order for it to be adequately transferred to on-the-job performance. Further, once training skills have been transferred to on-the-job performance, it must be determined if the transference will have an impact on employee performance. (3,33)

Statement of the Purpose

To date many studies, like XEROX, can only speculate the reasons for improvement. Research available on skill transfer focus' on three elements: training design, trainee characteristics and environment. (3) Extensive research has been conducted in these areas. Unfortunately most of the data collected for these studies was based on self reported immediate measures taken directly upon completion of training. (3)

This study was designed to expand the impact and maintenance of training skills beyond the classroom setting. Supervisory reinforcement of training was used to encourage training transfer to on-the-job performance. Skills learned during training need to be moved from the classroom into the job where daily situations create realistic opportunities to develop and reinforce skills. On-the-job repeated practice over time and supervisor reinforcement need to encourage employees to utilize the skills they learned in the classroom. Supervisory monitoring and various training support activities and techniques were employed to assist the learner in not only transferring but practicing the new found skills or techniques. (60)

The purpose of this study is to examine the effects of various methods of supervisor reinforcement on the transference of training to on-the-job performance as indicated by measures of job productivity, effectiveness and satisfaction.

Research Questions

Five research questions were investigated during this study:

1. Given a variety of adjunct training activities related to improving work performance, does on-the-job transference of training take place without reinforcement of the supervisor?
2. What is the effect on employee productivity and effectiveness if supervisors receive reinforcement?
3. What is the effect of supervisor reinforcement on employee job satisfaction?
4. Given a variety of work situations, what effect does the overall employment environment have on a supervisor's ability to reinforce training?
5. Given management support and the opportunity to impact employee performance through reinforcement of training, will supervisors' job satisfaction improve?

Research Hypothesis

From the above research questions, the following research hypotheses were derived:

1. Employees who's training is reinforced by supervisors reinforced by a trainer will show a marked improvement in job productivity over employees that receive self-directed supervisor reinforcement.
2. Employees who's training is reinforced by supervisors reinforced by a trainer will show a marked improvement in job effectiveness over employees that receive self-directed supervisor reinforcement.

3. Job satisfaction for supervisors who receive training department reinforcement support and follow-up will be greater than that of supervisors that provide self-directed training reinforcement.
4. The job satisfaction of employees who's supervisor received training reinforcement support and follow-up from the training department will be greater than those employees with self-directed supervisor reinforcement and support.

Null Hypothesis

The following null hypotheses were utilized to test the research hypotheses:

1. There is no significant difference in productivity as measured by the Branch Productivity Report between employees who received training reinforcement from supervisors supported by training department staff and employees that received reinforcement from self-directed supervisors.
2. There is no significant difference in effectiveness as measured by the Branch Effectiveness Report between employees who received training reinforcement from supervisors supported by training department staff and employees that received reinforcement from self-directed supervisors.
3. There is no significant difference as measured by the Minnesota Questionnaire in supervisor job satisfaction as a result of training department reinforcement support and follow-up
4. There is no significant difference in employee job satisfaction as measured by the Minnesota Satisfaction Questionnaire between employees with semi-structured training reinforcement from the training transference and employees given no structured supervisor training reinforcement of training transference.

Limitations

While the findings of this study may have impact far beyond the limits of the study itself, it is important to

note that due to limitations of the proposed sampling procedure, it will be impossible to generalize with any high degree of confidence beyond the training setting in which the study is to be conducted. Consequently, it is important to consider the following in view of the restrictive nature of the proposed sampling procedures.

1. Since the findings are based on data gathered from given groups of employees and supervisors within a given environmental setting, the study will be able to make only tentative statements about the applicability of the findings to employees and supervisors within business and industry as a whole.

2. The data collected through the Job Satisfaction Questionnaire and the end-of-course evaluations will be subject to the candor and honesty of the supervisors and employees.

3. Since the finance industry does have significant turnover rates, particularly within collection departments, turnover may impact both the size and consistency of the sample groups.

4. Sample size and consistency will be impacted by opportunity for upward mobility within the Telephone Adjuster and Supervisor groups.

5. Training transfer results will be impacted by the specific actions and the extent to which individual supervisor's motivated to reinforce training on-the-job.

6. Company computerized reports on productivity and

effectiveness will be used to measure training transfer through job performance. Since these are internal company measures, there may be some question as to the validity of these reports as measures of productivity and effectiveness as it would apply to other organizations. However, these reports are standard performance measures for the industry focused on in this study.

Importance of the Study

The proposed research will help education and business training communities alike to further identify to what extent supervisory support is key to establishing an environment conducive to employee transfer of training to work performance. While supervisory support has been identified as critical to training transference, little research has been targeted toward establishing specific measures of successful transference. Current research information on this subject is anecdotal in nature.

(3,46,62,70,34,60)

This study is considered important for the following reasons:

1. Educators, researchers and businesses alike have become concerned about the low training transfer in the workplace, thus it is an important area for study and one in which a measurement of supervisor involvement may prove valuable. (3,33)

2. Typically, training is one of the first areas or departments to be cut during economic downturns. This might

be directly related to training departments overlooking the importance of training transfer as a means of validating training impact on employee on-the-job productivity. (62,34)

3. Training is frequently viewed as where employees go to get repaired or recharged. However, the recharge is usually very short lived. Pressures of the job, productivity standards, and supervisor direction often serve to defeat implementation of newly obtained knowledge or skills. (34,62) Yet recent business literature indicates that training has come to be viewed as the key to solving many of the important issues caused by increased technology, competition and high productivity standards. (65)

Certainly there are several reasons for this discrepancy of missions. It is hoped that this study can begin to demonstrate that trainers can build and even increase the value and importance of training through improved on-the-job transference. (65)

Definition of Terms

Definitions for key terms used in the description of the study are presented to provide a common basis for understanding.

BRANCH: a retail finance office through which car dealers and retail car buyers obtain financing. Three primary departments exist within each branch: Collections (referred to as Customer Service Department), Credit and Sales.

DELINQUENT CUSTOMER OR ACCOUNT: refers to an overdue payment on a financed account of more than 15 days.

EFFECTIVENESS: the total number of delinquent customer payment promises kept per hour.

FIELD REPRESENTATIVE (FR): an employee responsible for contacting delinquent customers regarding their account and making home or work site visits if a customer's account becomes seriously delinquent.

INSTRUCTOR OR TRAINER: the instructional leader in the training programs or activities. For consistency, all training sessions for the Telephone Adjusters and Field Representatives are conducted by the same group of instructors. Likewise, all training provided to the Supervisors are delivered by the same instructor group.

JOB SATISFACTION AS MEASURED BY MINNESOTA JOB SATISFACTION QUESTIONNAIRE: refers to work related extrinsic factors (e.g., working conditions, supervision, co-workers, company) and intrinsic factors (e.g., type of work, achievement, ability to utilize knowledge and skills).

PRODUCTIVITY: the total number of delinquent customer telephone collection payment promises taken per hour by a Telephone Adjuster or Field Representative.

REINFORCEMENT FOLLOW-UP: a series of formal and informal activities designed to assist in the transfer of training to on-the-job performance. Supervisors, monitored

by the training department, provided models of correct behavior.

SUPERVISOR, CUSTOMER SERVICE SUPERVISOR: the employee responsible for directing the operations of the customer service department.

TELEPHONE ADJUSTER(TA): an employee responsible for contacting delinquent customers for the purpose of discussing an overdue account and making arrangements for immediate or future payment of the total amount due.

TRAINING ACTIVITY, WORKSHOP OR PROGRAM: For the purposes of this study Telephone Adjuster and Field Representative training involved a classroom experience characterized by job specific instructional activities, techniques, or methods, designed to expand work knowledge and improve job performance. Supervisor training focused on management techniques and practices for improving employee attitude and increasing performance.

TRANSFER, TRANSFER OF TRAINING, TRANSFERENCE, or TRAINING TRANSFER: on-the-job utilization, application or implementation of knowledge and skills gained or introduced to employees during a training session, including modification of previous behavior.

CHAPTER II

REVIEW OF RESEARCH LITERATURE

Recently the importance of training has increased resulting in a wealth of literature on training transfer and reinforcement. However, among this literature there are few results from controlled investigations on the transfer of training to on-the-job performance. (55) Positive transfer of training can be defined as the degree to which trainees effectively apply the knowledge, skills and attitudes gained in a training context to the job. (58,75) Transfer of training, therefore, is more than a function of the training provided during a training program. Transfer of training occurs when learned behavior is generalized to the job and maintained over time. (1)

There is a growing recognition of the "transfer problem" in corporate training today. (54) It is estimated that while American industries spend up to \$100 billion annually on training and development. Ten percent (10%) of these expenditures actually result in training transfer to the job. (31) While a significant number of researchers have concluded that much of the business training conducted fails to transfer to the work environment few comprehensive

studies on transfer have appeared. (35,56,75) Several researchers have stated that the existing literature on transfer offers little value to trainers concerned with maximizing transfer. (28,73) On the other hand, Hinrichs suggests that trainers often fail to apply the scientific knowledge that is available. (41)

Most of the information available focuses on teaching knowledge and immediate measurement of the knowledge taught. There has been little consideration for monitoring and supporting on-the-job performance of skills taught during training. Further, the information that is available seems to have little impact on the way training is taught and reinforced on the job. Consequently, this review of literature will extend beyond the usual studies centering only on the conducting of effective training programs and will explore other areas thought to have direct impact on the application of adjunct supervisor training and reinforcement of training on-the-job. However, factors impacting transfer such as trainee skill, motivation and personality factors will not be explored in the context of this research. (3)

Figure 1.1 provides a framework for describing the desired transfer process. The literature examining transfer issues will be reviewed and critiqued in relation to the impact of training outcomes and conditions of transfer.

In 1988 Baldwin and Ford conducted an in-depth study on previous transfer of training research. The results of this

study have been liberally reproduced, with permission, in the following pages and tables. (3)

Training Design

A large proportion of the research on transfer has concentrated on improving the design of training programs through incorporation of basic learning principles.

Research has centered around the following principles:

Identical Elements. This concept, originally proposed by Thorndike and Woodworth, hypothesized that transfer is maximized when identical stimulus and response elements are used in training and transfer settings. (66) Empirical research supports the use of identical elements to increase retention of motor and verbal skills. (13,21,29,68)

General Principles. Promotes the concept that transfer is facilitated when trainees are taught the general rules and theoretical principles that underlie the training content. (53) Crannell, in a series of three studies, demonstrated the value of general principles by teaching the problems solving to improve subjects' ability to learn card-sorting tricks. (14)

Stimulus Variability. Encourages the use of a variety of relevant training stimuli to increase training transfer. (23) This principle states that the use several of examples of a concept will not only increase the trainee's understanding but will make the trainee better able to see the applicability of a concept in a new situation. (20,23) This principle has gained empirical support with respect to

training outcomes. Shore and Sechrest found that using a moderate number of different examples that were repeated a few times each were more effective in enhancing learning than using one examples repeatedly. (64)

Conditions of Practice. Include a series of specific designs: massed or distributed training, whole or part training, feedback, and overlearning.

Mass versus distributed training addresses whether or not to divide training into segments. Research suggests that material learned through the distributed method is generally retained longer than material learned under mass. (7,57) There is also some evidence that massed practice sessions on difficult or complex subjects result in higher performance when followed by briefer sessions with frequent breaks. (42)

Whole versus part training centers around teaching all the material as opposed to teaching one part at a time. Interestingly, evidence suggests that the whole method is advantageous when learners intelligence is high, practice is distributed rather than mass, and training material is high in task orientation but low in complexity. (57)

Feedback refers to information provided to trainees about their performance. Evidence shows that feedback is a critical element for maintaining learning and that timing and specificity are critical to its success. (77)

Overlearning refers to the process of providing trainees with continued practice beyond the point when the

task has been performed successfully. (53) Research indicated that the greater the amount of overlearning, the greater the subsequent retention of the trained material. (1,30,51)

Table 1 presents the studies related to training design and learning principles. An examination of the table reveals that most of the research regarding principles was conducted before 1970. The samples used for most of the studies were composed of college students completing relatively straightforward memory and psychomotor skill tasks. The criterion measured for all the studies was training outcome. Typically, measures of retention were taken immediately after completion of the task. Research indicates that learning principles have an effect on learning and immediate retention of training material. Unfortunately, attempts to examine retention over time or the effects of retention on the on-the-job maintenance of skills have been rare.

In examining the study characteristics presented in Table 1, two basic limitations are evident.

First, the tasks used limit generalizability of the results to short term, simple motor and memory skills training. This is problematic given that corporate training is often conducted to enhance individual competence on long term, more complex skills such as interpersonal

Table 1 - Training Design

Author(s)	Sample	Content	Training Variables	Criteria
Atwater (1953)	32 College students	Pairing words	Conditions of practice (overlearning)	Immediate proficiency in pairing words correctly
Baldwin (1987)	72 College students	Behavior modeling assertive skills	Stimulus variability	Immediate measure of learning; generalizing of skills context 4 wks later; unobtrusive measure of skills use 4 wks later
Briggs & Naylor (1962)	144 College students	Maintaining control of a compensatory tracking system	Conditions of practice whole vs. part	Immediate measure of tracking proficiency
Briggs & Waters (1958)	160 ROTC college students	Pilot training; simulated tracking	Conditions of practice whole vs. part	Immediate measure of total number of errors in sorting cards to illustrate understanding
Callentine & Warren (1955)	120 College students	Concept attainment with geometric	Stimulus variability	Immediate measure of total no. of errors in sorting cards to illustrate understanding figures
Cominsky (1982)	34 Graduate students	Teaching reflection of feeling	General principles & stimulus	Taped role plays, immediately after program variability completion
Crafts (1935)	64 College students	Card sorting	Identical elements	Immediate ability on testing card sorting task
Cranell (1956)	248 College students	Card trick problems	General principles	Immediate measure of no. of problems completed in 1 hr; 6 wk measure if 2 problems could be completed in 10 minutes
Decker (1980)	90 College students	Behavioral modeling of assertive skills	Type of learning skills	Immediate reproduction of skills; Immediate skill generalization
Decker (1982)	24 First line supervisors	Coaching & handling employee complaints	Type of learning points	Immediate reproduction of skills; Immediate skill generalization
Dignan (1959)	41 College students	Hitting target button with rotor	Conditions of practice mass vs. spread	Immediate task proficiency
Duncan (1958)	600 College students	Movement of a lever into 1 of 13 slots	Stimulus variability	2 proficiency tests; 1 a 24 hrs after training 2 a 48 hrs after training

Table 1 - Training Design (Continued)

Author(s)	Sample	Content	Training Variables	Criteria
Duncan & Underwood (1953)	186 College students	Moving lever into slots based on color/light stimuli	Identical elements	Retention of learning 24 hrs & 14 mos after training
Gagne & Foster (1949)	145 Enlisted navy men	Reaction to light by pressing control panel switch	Conditions of practice mass vs. spread	Immediate measures 1 amount of time to complete trials 2 no. of errors
Hagman & Rose (1983)	Military personnel	Variety of military tasks	Conditions of practice	Immediate proficiency & retention over time
Hilgard, Irvine, & Whipple (1953)	60 High school students	Card trick problems	General principles	Overnight measures proficiency on transportation task & problem solving
Mandler (1954)	60 College students	Operating hand switches in sequence	Conditions of practice	Immediate errorless trails
Mandler & Heinemann (1956)	60 College students	Assembly of verbal units from nonsense	Conditions of practice overlearning syllables	Immediate no. of correct trails
Maylor & Briggs (1963)	63 High school students	Discriminating pairs of geometric figures	Stimulus variability	Immediate ability to discriminate between pairs
Shore & Sechrest (1961)	64 College students	Concept attainment	Stimulus variability	Immediate no. of correct tests
Thorndike & Woodworth (1901)	5 College students	Observing words for certain characteristics	Identical elements	Immediate speed & accuracy in word recognition
Underwood (1951)	54 College students	Pairing adjectives	Identical elements	Immediate no. of correct responses

Table 1 - Training Design (Continued)

Author(s)	Sample	Content	Training Variables	Criteria
Wexley & Thornton (1972)	261 College students	Introductory Psychology course	Feedback	Course exams

Note: In this context the term immediate denotes a period directly after the training; that is no significant time elapsed between training and measurement of trained skills.

learning principles on training outcomes for more complex and interrelated tasks is unknown.

Second, the criterion measures in these studies have been learning and short term retention. While these measures were appropriate, given the goals of the original studies. It would be hard to apply these findings to the transfer of training. Therefore research is needed that examines the effects of training design factors on training outcomes and the conditions of transfer.

Trainee Characteristics

A wide variety of trainee characteristics thought to effect the transfer have been suggested in some literature. (62,67) However, empirical investigations of ability, personality, and motivational effects on training and transfer outcomes are quite limited.

Existing research demonstrates that trainee success in the early stages of training or on training exercises predicts transfer on some training tasks. (19,36,37) Noe and Schmitt found that trainees with high job involvement were more motivated to learn and transfer skills to the work setting. (59) Baumgartel et al. showed that managers who believed in the value of training were more likely to apply skills learned in training. (5)

Post-training intervention such as goal setting and feedback have been used to increase the motivation of the trainee to transfer skills learned in training. (3) Wexley and Nemeroff found that trainees assigned goals after a

management development program were significantly better at applying their learning than were members of a control group. (76) Reber and Wallin showed that both feedback and goal setting produced higher levels of skill transfer to the work setting than did either approach separately. (61)

Table 2 present studies that examine the relation of trainee characteristics to transfer of training. There are few of these studies, but they are more recent than those focusing on training design. Examination of the table reveals a variety of different samples, training tasks, and designs used.

The criterion measure typically used in these studies was retention of learned material. Retention was commonly measured through written tests given immediately or shortly after completion of the training program. In some studies information on generalization and on-the-job transference were also gathered. The major source of information was the trainee him/herself and their perception of their success in transferring skills from the training to the job.

The research available on trainee characteristics has a major problem, it uses self reporting measures to determine if transfer has occurred. Self reporting measures of transfer are not adequate in and of themselves. They do not provide you with sufficient information for developing a data base for determining which interventions have the greatest impact on training transfer.

Table 2 - Trainee Characteristics

Author(s)	Sample	Content	Training Variables	Measures & Results
Baumgartel & Jean-pierre (1972)	240 Indians managers	Management development program	Demographic: age, educ. & income; Motivation: value & relevance.	Immediate effort - 41% indicated intent to apply. Significant to income only. Success - of those indicating effort: 47% indicated high success, 38% medium, 15% low. Attempt - 21% of the supervisors indicated some employee attempt to use. Trainee relations & characteristics n.s.
Baumgartel, Reynolds, & Pathan (1984)	260 American managers	Human relations	Demographic: rank/job level Motivation: value of training Personality: of training	Immediate effort - significantly related to locus of control. Perceived success in transferring - significantly related to belief in training locus of control value. Other trainee characteristics n.s.
Downs (1970)	82 Sewing	Sewing machine	Ability: training sample machinist	Immediate instructor rating - Significantly related ($r=.50$) to score on training sample
Gordon (1955)	400 Military	Radio Code recruits	Ability: early training training	Immediate radio code test score - Significantly time required related to early training time. 3 groups with varying degrees of previous radio exposure
Gordon & Cohen (1973)	58 Welding trainees	Plate welding	Ability: early training time required	Immediate time required to complete training - Significantly related to early training performance on each of the first 4 training tasks. Peers 3 mos after training all characteristics n.s.
Moe & Schmitt (1986)	60 School educators	Managerial skills	Motivation: expectancies, motive to learn, for nature, job involvement motivation to transfer	Immediate trained raters learning - relation with exploratory all characteristics n.s. Residual value involvement = .41 Self 1-2-3 mos after training job - relation to all trainee characteristics n.s. Supervisor 3 mos after training behavior - relation to all trainee characteristics n.s.
Reber & Wallin (1984)	105 Farm machinery workers	Safety procedures	Motivation: reinforced feedback & goals	Trained weekly observers up to 40 weeks on safety behaviors exhibited - Main effects for 3 interventions: 1 safety rule training 70.85%; 2 goal setting 77.54%; 3 feedback & goal setting 95.39%

Table 2 - Trainee Characteristics (Continued)

Author(s)	Sample	Content	Training Variables	Measures & Results
Vexley & Baldwin (1986)	256 College students	Time management	Motivational goal setting: relapse prevention	Immediate instructor learning - Main effect for assigned goal setting. Self 6 wks after training behavior - main effects for assigned & participative goal setting. Observer 8 wks after training behavior - n.s.
Vexley & Nemeroff (1975)	27 Health care managers	2 day supervisory skills program	Motivation: goal setting	Self 60 days after training behavior - Goal setting treatments significantly more effective than control group in improving leader behavior of mgrs. Subordinate 60 days after training behavior - Assigned goal setting grp was most effective in increasing subordinate work satisfaction

Work Environment Characteristics

Currently there is some practitioner literature which indicates that training transfer is highly dependent on factors in the trainee's work environment. (22) However, empirical evidence is scarce. Huczynski and Lewis found that a management style that included pre/post-course discussion with one's boss contributed to the transfer of skills. (43)

Table 3 presents several studies that have examined the relation of environmental characteristics to transfer of training. This researcher was unable to locate any studies in which an intervention was made to change the work environment. The studies reported used large scale surveys to examine relationships such as work climate, leadership climate, and supervisory support to transfer criteria. (5,25,43) Most of the training programs studied were interpersonal-skills programs. Given that behavioral changes in interpersonal-skills are difficult to measure, it is not surprising that the transfer measurement most frequently used was that of self reporting. Many of the measures were gathered immediately or shortly after the training program was completed. A few studies collected self and supervisory reports of behavior change at varying points in time after the training. (39)

Table 3 - Environmental Characteristics

Author(s)	Sample	Content	Training Variables	Measures & Results
Baumgartel, Reynolds, & Pathan (1984)	260 American managers	Human relations	Perceptions of transfer	Immediate self effort to apply - Favorable climate organization climate perceptions were significantly related to effort to apply.
Fleisman (1953)	122 Manufacturing foremen	Leadership training climate	Perceptions of leadership	Self 2-24 mos after training leader behavior - leader behavior was significantly affected by the leadership climate in the trainee's work environment.
Hend, Richards, & Stocum (1973)	21 Middle managers	Human relations training	Perceptions of transfer climate	Self 3 & 18 mos after training. 3 mos eval. n.s. changes in attitude or behavior of trainees observed. 18 mos after training significant positive changes in attitude were observed in experimental grp - negative changes existed in control grp.
Huczynski & Lewis (1980)	48 Electronic managers	3 day network analysis training	Supervisor support & perceptions	Self 4 mos after training attempt to transfer Transfer negative changes existed in control grp.
Huczynski & Lewis (1980)	48 Electronic managers	3 day network analysis training climate	Supervisor support & perceptions transfer -	Self 4 mos after training attempt to transfer Transfer were more likely when trainees had pretraining discussions with boss and where boss supported the new idea.

There are some problems with the research examining work environment and transfer. The first issue is the static nature of the research in relation to the dynamic nature of the transfer process. The primary support for the importance of the environment to transfer is based solely on correlation studies in which causality can not be inferred. What is needed is the identification of key work environment variables. For example, while research suggests that supervisory support is an important component affecting transfer, there is little attempt to understand what supervisory behaviors are most impacting. A second issue is the data collection problem. The studies on environment have typically used self reporting as the major measure of transfer. Research is needed in which measures are taken at multiple intervals to examine the effects of work characteristics and time on skill transfer to on-the-job performance.

In summary, it is important to remember that it is only in the past decade that training and the transfer of training became an important business factor. When examining the research samples, designs and measures it becomes evident that we have only just begun to understand the transfer process. Hopefully, this research project will bring us a little closer to that understanding.

CHAPTER III

RESEARCH DESIGN AND PROCEDURES

The purpose of this study was to examine the effects of various methods of supervisor reinforcement on the transference of training to on-the-job performance as indicated by measures of job productivity, effectiveness and satisfaction. Various methods of reinforcement were applied to three employee/supervisor work groups. The work groups were tracked over a six month period.

Five research questions were investigated during this study:

1. Given a variety of adjunct training activities related to improving work performance, does on-the-job transference of training take place without reinforcement of the supervisor?
2. What is the effect on employee productivity and effectiveness if supervisors receive reinforcement?
3. What is the effect of supervisor reinforcement on employee job satisfaction?
4. Given a variety of work situations, what effect does the overall employment environment have on a supervisor's ability to reinforce training?

5. Given management support and the opportunity to impact employee performance through reinforcement of training, will supervisors' job satisfaction improve?

Research Hypothesis

From the above research questions, the following research hypotheses were derived:

1. Employees who's training is reinforced by supervisors reinforced by a trainer will show a marked improvement in job productivity over employees that receive self-directed supervisor reinforcement.
2. Employees who's training is reinforced by supervisors reinforced by a trainer will show a marked improvement in job effectiveness over employees that receive self-directed supervisor reinforcement.
3. Job satisfaction for supervisors who receive training department reinforcement support and follow-up will be greater than that of supervisors that provide self-directed training reinforcement.
4. The job satisfaction of employees who's supervisor received training reinforcement support and follow-up from the training department will be greater than those employees with self-directed supervisor reinforcement and support.

Environment

The location or environment under which this project was conducted was that of a credit branch. The specific department from which the treatment groups of employees and supervisors were drawn was that of the collection department within the credit branch. The collection department is the largest group of employees within the branch setting. It is responsible for collecting payments on delinquent accounts. Delinquent accounts occur when credit customers' payments

are overdue. The exact degree of delinquency is directly related to the length of time the account has been overdue or how many payments the customer is in arrears. The more serious the delinquency the more serious the collection problem. Customer accounts are classified by the number of days delinquent:

- 0 - 15 days delinquent
- 16 - 30
- 31 - 60
- 61 & over

Each employee within the Telephone Adjuster and Field Representative group is responsible for a certain number of delinquent accounts. The exact number may vary based on the local economy, the number of accounts within the branch and the employees ability to collect the delinquent accounts. Thus the employee, based on his/her ability to collect, can cause their caseload to increase or decrease. TA/FR's delinquent accounts will increase if collection calls are unsuccessful and payments are not received. Delinquent accounts will decrease if collection calls are successful and payments are received.

Telephone Adjusters and Field Representatives are required to contact a certain number of delinquent customers per day. Again this number may vary based on caseload fluxuations previously identified. Most customer contacts are made by telephone. In some cases, where the employees are unable to reach a customer or an account has become

seriously delinquent, home and/or worksite visits are made by the Field Representatives.

Customer Service Supervisors (Collection Department Supervisors) serve a multiplicity of roles; trainer, counselor, supervisor, evaluator, and motivator. However, the primary function for which they are held accountable is "getting delinquency down".

Both the Telephone Adjuster and Field Representative jobs have to cope with a great deal of stress. Productivity (number of accounts called daily) and overall effectiveness (number of payment promises received and kept) are monitored daily. Contacting customers regarding their delinquent accounts in and of itself has a certain amount of stress.

This project will determine if, in a concentrated environment like the one just described, training transference can take place and if supervisor involvement improves such transference.

Population

The population under investigation was comprised of employees in collection departments of five branches of one of the largest independent financial institutions in the world. The specific target population within the branch are identified as telephone adjusters and field representatives and their direct supervisors.

Sample

From a network of approximately 100 branch locations, five sample branches were identified for participation in this study. Selection depended upon branch location, proximity, size, and productivity. All selected branches had at least two separately supervised groups of telephone adjusters and field representatives.

Employee/supervisor work groups, from five (5) branches selected to participate in this study, were randomly assigned to three treatment groups (A, B, and C). (See Figure 3.1 - Treatment Groups Among 5 Branches) Two employee/supervisor work groups from each of three branches (1, 2, and 3), were assigned to one of the first two treatment groups (A and B). Groups 1a, 2a, and 3a received support and reinforcement of training from their supervisors. Supervisors in this group received reinforcement follow-up support from the company training department staff. (See review of reinforcement and support on pages 44-46.) The remaining employees from different work groups within the same branches, identified as 1b, 2b, and 3b, received identical training and supervisor support and reinforcement of training. The training department did not interact or provide reinforcement follow-up support for the 1b, 2b, and 3b supervisors. Both groups A and B were compared to determine if an overflow effect occurred.

Employee/supervisor groups from branches 4 and 5 served as control group (C). These two branches were

Figure 3.1

3 TREATMENT GROUPS AMONG 5 BRANCHES

N = 81

GROUP A

<u>WORK GROUP</u>	<u>POPULATION</u>	<u>TREATMENT</u>
BRANCH 1a	2 SUPERVISORS 8 EMPLOYEES	REINFORCEMENT FOLLOW-UP SUPPORT SUPERVISOR REINFORCEMENT OF TRAINING
BRANCH 2a	2 SUPERVISORS 8 EMPLOYEES	
BRANCH 3a	1 SUPERVISOR 6 EMPLOYEES	

GROUP B

<u>WORK GROUP</u>	<u>POPULATION</u>	<u>TREATMENT</u>
BRANCH 1b	1 SUPERVISORS 4 EMPLOYEES	MODELING ENVIRONMENT SUPERVISOR REINFORCEMENT OF TRAINING
BRANCH 2b	2 SUPERVISORS 8 EMPLOYEES	
BRANCH 3b	1 SUPERVISOR 6 EMPLOYEES	

GROUP C

<u>WORK GROUP</u>	<u>POPULATION</u>	<u>TREATMENT</u>
BRANCH 4	1 SUPERVISORS 5 EMPLOYEES	SUPERVISOR REINFORCEMENT OF TRAINING
BRANCH 5	4 SUPERVISORS 22 EMPLOYEES	

monitored from a distance utilizing company computerized reports on productivity and effectiveness. While there was self-directed supervisor reinforcement of training, there was no reinforcement follow-up support provided to the supervisors by the training department. Employee and supervisor activities and progress measures remained the same as in the other three branches.

Research Design

This study collected and compared training transfer through reinforcement results based on six months tracking of various treatments.

Training transfer outcomes were measured by comparing on-site supervisor reinforcement as supported, encouraged, and guided by the company training department with the traditional methods of independent self-directed supervisor reinforcement of training. Training transfer outcomes included self reported information in addition to gathering computerized job performance data. This combination provided a more comprehensive picture of the impact of supervisor reinforcement on training transfer as related to on-the-job performance. Areas measured to determine and compare the effects of the above treatments on training transference included:

End-of-Course Evaluation - How did work groups feel about training?

Productivity - How much work is accomplished?

Effectiveness - What are the results of the work accomplished?

Job Satisfaction - Has job satisfaction changed since this study?

The design, over time, took the form indicated below:

Treatment Groups	Measures	Treatments
1a,2a,3a	01,02,03,04	A
1b,2b,3b	01,02,03,04	B
4,5	01,02,03,04	C

The variable matrix takes the form of a one way design with equal numbers of observations in all cells.

Pretreatment Training

In order to track the transfer of training a comprehensive training program was developed to delivered to the Telephone Adjusters (TA), Field Representatives (FR). A second training program was developed for the Supervisors. The training for both groups served as the foundation upon which this study would measure training transference as impacted by supervisor reinforcement.

The Telephone Adjuster/Field Representative's general training purpose was to provide improved understanding, awareness and utilization of collection techniques and procedures; against which increased job productivity and effectiveness could be measured. Specific training topics included:

- Team Building
- Personality Profiling
- Customer/Service Collection Techniques and Procedures
- Customer Relations
- Quality Improvement

See Appendix B for more details on the purpose, process, products and objectives of the training modules listed above.

Supervisor training had a three-fold purpose. First, and primarily, to provide supervisors with basic management tools for improving on-the-job transfer of employee training. Second, to expand supervisors ability to manage and motivate their employees. Third, to provide the supervisors with an awareness and understanding the training their TA/FR's received.

Since this supervisor group had previously received no formal management training, numerous management techniques and practices were introduced. Topics included the following:

- Coaching and Counseling
- Recognition
- Listening Skills
- Quality/Customer Relations
- Problem Solving
- Performance Appraisals and Management By Objectives
- Collection Procedures and Techniques

The general content and topics resulted from feedback from TA/FR training sessions, upper management and a training needs analysis survey. See Appendix B for more details on the purpose, process, products and objectives of the training modules listed above.

Independent Variables Treatments

Figure 3.1 presents an overview of the work group distributions by treatment group and the treatments applied to each group. The subjects were assigned to treatment

groups according to the branch locations in which they were employed. The treatment groups reflected one entire employee/supervisor group or department within each designated branch.

Treatment Group A: 1a, 2a, 3a

Treatment Group B: 1b, 2b, 3b

Treatment Group C: 4, 5

Treatment Group C served as the control group for this research.

The purpose of this study was to examine the effects of various methods of supervisor reinforcement on the transference of training to on-the-job performance as indicated by measures of job productivity, effectiveness and satisfaction.

This study took the form of a quasi-experimental design with multiple treatments including end-of-course training evaluations and a pre/post job satisfaction questionnaire. In addition, individual productivity and effectiveness reports were used to measure the impact of supervisor reinforcement of training on job performance.

The size of the study provided a sampling from which statements about the applicability of findings could be drawn.

A unique element of this study centers around the involvement of the company training department in providing on-going support and direction to one of the three treatment groups. This support was designed to provide supervisors

with training reinforcement as they in turn attempted to provide training reinforcement to their respective employees.

The investigator closely monitored various degrees of supervisor involvement. Supervisors from all treatment groups were asked to provide their employees with any help and support needed to overcome the awkward or performance dip period that occurs when attempting to transfer training to on-the-job performance.

It was expected that training reinforced and supported by on-the-job supervisors would more positively effect employees than training with little or no supervisor interaction or reinforcement. Further, that supervisor reinforcement of training transference could be enhanced through ongoing intervention and support. This study compared and assessed the impact of three supervisor reinforcement treatments on training transfer. Treatment groups differ in the type of intervention employed.

Group A (branches 1a,2a,3a) Process: Training transference was followed-up, monitored and supported by the training department. Supervisors were contacted monthly and encouraged by the training department to develop and maintain daily training reinforcement activities with their TA/FR's. Upper management within the Branch, the Area Vice President and Regional Managers provided verbal encouragement and on site visits to support training reinforcement activities. Knowing that upper management

supported the project and their efforts served as positive reinforcement for both Supervisors and TA/FRs. Supervisors were instructed to provide feedback or reinforcement daily on an as needed basis. Various staff managers from the training department contacted or physically visited this group of supervisors monthly. During visits the training staff encouraged the supervisors to continuously provide employees with training reinforcement. They also provided them with reinforcement ideas and materials. Thus the training department in a semi-structured manner provided ongoing follow-up support and guidance to supervisors in Group A as they attempted to reinforce the training transfer process. This support consisted of a variety of activities including:

1. Monthly on-site visits during which TA/FR and supervisor practices were observed first hand. Individual feedback and suggestions were provided to both groups. Meetings were also held with the supervisors to discuss training transfer problems, issues, and successes. During the supervisor meeting specific suggestions and ideas were discussed in conjunction with future actions and activities that would assist in continuing training transfer to on-the-job performance. Supervisor implementation action plans, developed during training, were discussed and revised as necessary. During the on-site visits the training staff person also met with branch

management to give them progress reports and to elicit their continued support for the project.

2. An electronic message system was established between the training department and the supervisors. This system facilitated ongoing communication between the on-site visits. Supervisor questions, problems and successes could be electronically communicated between the individual supervisors and the training staff. This was particularly helpful in establishing a mechanism for intragroup communication and support.

The electronic system was also used by the training department to send monthly reinforcement activities and ideas called "training reminders" to the Group A supervisors.

3. Numerous support activities and materials were provided to supervisors to assist them as they attempted to provide the continuous support necessary for training transfer to occur. These support activities included: brief readings or newsletters, discussions of practical applications for learned behaviors, and training reminders in the form of various items and activities designed to remind learners of desired behavior (i.e., mirrors to attach to computers reminding TA/FR's to "Smile before you dial"; booklets which restated desired behaviors).

Feedback on performance and verbal encouragement were provided continually to encourage persistence in

implementation. Recognition materials such as pencils and pads were distributed for on-the-job performance of desired behavior.

Group B (branches 2a,2b,2c): Supervisors and employees (TA/FR's) within this work group were given the same training as Group A. Employees were asked to implement the training techniques they had learned during training on their day-to-day job. Supervisors were asked to give continuous support, reinforcement and recognition to employees as they attempted to transfer the training they had received to on-the-job performance. No external support was provided to this group by either the training department or management within the branches. Since supervisors of the second treatment group were located in the same facility as the first treatment group, examples of supervisor reinforcement models were readily observable within the environment. Thus, this environment provided the opportunity for supervisors of one treatment group to observe and emulate the activities of supervisors in the other treatment group.

Group C (branches 4,5): Supervisors and employees (TA/FR's) within these branches were given the same training as Groups A and B. No external support was given by the training department. Supervisors were directed upon the completion of their training to return to their branch and to provide training reinforcement and support to their employees as they attempted to transfer training to on-the-

job performance. Supervisors were expected to independently reinforce and motivate employees to modify behavior according to the training they had received. Treatment Group C served as the control group for this research.

These branch locations were totally separate from Groups A and B. Consequently, no modeling opportunities were available. Figure 3.2 details the delivery sequence of the research design.

All monitoring of supervisor and employee performance was done from a distance utilizing company computerized reports on productivity and effectiveness. There was no interaction with the training department.

Dependent Variables

Four dependent variables were used for this research. The first variable was related to perceptions of the quality of the training course provided. Though not an actual component of the research design, the training provided was a basis for the reinforcement provided. Hence, the investigator felt that some indication of the quality of the training provided was important. This variable was measured immediately after training using an end-of-course evaluation. (See Appendix C for TA/FR and Supervisor end-of-course training evaluations.)

The second variable was job satisfaction as measured by the Minnesota Job Satisfaction Questionnaire. (77) A questionnaire was administered in a pretest-posttest fashion

Figure 3.2

Scope/Sequence of Activities

<u>TREATMENT GROUPS</u>	<u>WORK GROUPS</u>	<u>ACTION SEQUENCE</u>	<u>MEASURES</u>
A	1a 2a 3a	Train Employees ----> Train Supervisors ----> Supervisor Reinforcement ----> Reinforcement Support	Productivity Effectiveness Job Satisfaction Course Evaluation
B	1b 2b 3b	Train Employees ----> Train Supervisors ----> Supervisor Reinforcement ----> Modeling Environment	Productivity Effectiveness Job Satisfaction Course Evaluation
C	4 5	Train Employees ----> Train Supervisors ----> Supervisor Reinforcement	Productivity Effectiveness Job Satisfaction Course Evaluation

*The above treatment groups identified as 1a, 2a, 3a, and 1b, 2b, 3b, represent employees and supervisors within the same branch. Whereas, branches 4 and 5 represent separate treatment groups.

to TA/FR's and Supervisors to measure job satisfaction opinion changes as a result of the treatments. (See Appendix C for sample Minnesota Job Satisfaction Questionnaire.)

The last two variables, productivity and effectiveness, were related to on-the-job performance. Measures for these two variables utilized existing computerized company reports. The company's computer system analyzes data on a continuous basis. Reports are generated from this data on an as needed basis. For this study, these reports were generated at three intervals: preimplementation (immediately after supervisor training), intermediate (three (3) months after training), and delayed (six (6) months after training).

All information gained as a result of this research whether on employees, supervisors or branches was kept in the strictest confidence. Results and information was reported anonymously. Anonymity was maintained throughout the research process.

Potential Influencing Variables

A possible confounding variable for which this researcher has no control is the potential impact of an upward turn in the economy which would create automatic productivity and effectiveness improvements in any collection department. Such an event would have a high probability of also improving individual job satisfaction. Such a factor could possibly impact measures from pre and

post measures but it would not make any specific difference when comparing the different branches.

Another concern for internal validity is based on the high mobility of management within the branch setting thus it should be anticipated that upper management might possibly change during this project. However, of greater concern would be the change of supervisors and TA/FRs directly involved in the research. Such conditions will be controlled by having multiple treatment sites. There are no other major concerns for validity of this experiment.

Data Collection

Permission to undertake this study was granted by the company within which this study was to be conducted and the Michigan State University Committee on Research Involving Human Subjects (UCRIHS) (see Appendix D).

Four different instruments were used to collect the quantitative data necessary to test the research hypotheses. These included a training course evaluation instrument to measure the perceptions of the quality of training, the Minnesota Satisfaction Questionnaire to measure job satisfaction, and computer generated reports to measure both job productivity and effectiveness. Data collected were used to test the hypotheses. Supervisors and employees signed participation consent forms prior to the start of this research project. Anonymity was maintained throughout the research process.

Training Course Evaluation

Supervisors and Telephone Adjusters/Field

Representatives were asked to complete an end-of-course evaluation on the training they had received. (See Appendix B for Course Outline.) The evaluation instrument, developed by the training department, was standardly used to collect information on how employee groups feel about training immediately after the course has been completed. (See Appendix C for a sample evaluation.) Evaluations were distributed, collected and tabulated by the training department staff. Evaluations were anonymous. Evaluation results were tabulated for all employees attending training, including those within the treatment groups. Though a separate tabulation of the treatment groups was not possible, it proved not to be necessary since all results were highly positive (over 90%).

Minnesota Satisfaction Questionnaire

Job satisfaction was measured by the Minnesota Satisfaction Questionnaire (MSQ) (see Appendix C). The use of this copyrighted job satisfaction questionnaire was approved by the University of Minnesota Vocational Psychology Research Department (see Appendix D). The MSQ measures job satisfaction relative to several specific aspects of work and the work environment. (72)

The short-form MSQ was selected based on the relevance of its content to the work groups studied and the quality of its reported measures of reliability and validity.

Reliability coefficients demonstrate a high level of internal consistency for the short-form ranging from .87 to .92 for general satisfaction measures. However, since reliability coefficients varied by work groups, it was suggested that internal consistency reliability coefficients be computed for the group on which the MSQ is used. Validity for the short-form was based in part by inference from validity for the long-form. Other evidence for construct validity included results from studies of occupational group differences which paralleled those obtained for the long-form and other construct validation studies based on the Theory of Work Adjustment.

The job satisfaction pretest questionnaire was administered immediately after training, before reinforcement activities began. Posttest job satisfaction questionnaires were administered to the treatment groups six months after training during which time various training reinforcement activities had occurred. TA/FRs and supervisors signed consent forms prior to the pretest (see Appendix A).

Productivity and Effectiveness Reports

Two computerized, company reports were used to track factors of employee productivity and effectiveness (see Appendix C). These were standard reports used as to analyze, monitor and evaluate employee work performance on a continuous basis. Data from these monthly reports on Promises Taken per hour and Promises Kept per hour were

collected immediately after training was completed and prior to beginning treatment, three months after the implementation of treatment, and six months after the implementation of treatment. The reports were generated by the company's computer system and the data collected directly from the reports. Computer reporting is continuous, hence, reports are always currently comprehensive and reliable. (72)

Data Analysis

Data from each of the four measures were analyzed using techniques appropriate to the type of data collected and the factors involved in the analyses. All null hypotheses were tested at a strict significance (alpha) level, $\alpha = .05$. Hence, there was a 95% level of confidence that any differences found to be significant did not occur by chance alone.

Training Course Evaluation

Descriptive statistics were used in the analysis of the data resulting from the evaluation of the training course. Frequencies and percentages were calculated and the results used to describe the perceptions on the quality of the course.

Minnesota Satisfaction Questionnaire

Individual scores collected in a pretest-posttest manner on the MSQ were paired and used to calculate a total gain score for job satisfaction. The hypothesis being tested required that the three original treatment groups be

collapsed to two treatment groups. One treatment group, the A group, represented the condition in which supervisors received follow-up reinforcement of training. The other treatment group, a combination of B and C, represented the condition in which supervisors did not receive follow-up reinforcement of training. The appropriate technique for analysis was a one-way fixed effects analysis of variance (AOV) to determine if any differences occurred between treatment groups. Because of previous studies which demonstrated that satisfaction levels vary by level of employment, analyses were conducted separately for supervisors and nonsupervisory employees of the two groups.

Productivity and Effectiveness Reports

Productivity and effectiveness data were collected at three points in time for three treatment groups. The number of Promises Taken per hour (Productivity) and the number of Promises Kept per hour (Effectiveness) were summed and an average calculated for each group. The appropriate technique for analysis of each dependent variable was a repeated measures multivariate analysis of variance (MANOVA). After the application of a MANOVA, univariate analyses were then used to test between group differences.

Summary

The research design and procedures of this study were described in this chapter. Included was the population, sample, measures, environment, the research design, the treatment, the independent and dependent variables,

potential influencing, data collection validity and analysis methods. The research findings are presented in Chapter IV.

CHAPTER IV

FINDINGS

This research attempted to gather both anecdotal and concrete evidence to determine the effect of various methods of supervisor reinforcement on the transference of training to on-the-job performance as indicated by measures of job performance and satisfaction.

Characteristics of the Sample

The original sample consisted of 81 employees, 67 Telephone Adjusters and Field Representatives (TA/FR), and 14 Supervisors. Demographic data was collected on variables including sex, race and age. These data were used to ensure that the sample was representative of the overall demographics of the company population.

Due to anticipated turnover and promotions, the resulting experimental sample was made up of 54 employees; 40 (74.1%) TA/FR's and 14 (25.9%) supervisors (see Table 4).

Table 4 - Distribution of Sample by Employee Group

	Frequency	Percent
TA/FR	40	74.1%
Supervisors	14	25.9%
Total	54	100%

Table 5 provides the distribution of the sample by sex and treatment groups. Ten females and 44 males participated in the study. Males (83.3%) predominated over females (16.7%). This predominance of males over females was reflected by company demographics of 75.6% males and 24.4% females.

Table 5 - Distribution of Sex by Treatment Group

	Treatment Groups			Totals	
	A	B	C	Frequency	Percent
Female	5	2	2	9	16.7%
Male	14	15	16	45	83.3%
Total	19	17	18	54	100%
Percent	35.2	31.5	33.3		

For analytical purposes employees were assigned by location of their branch to a treatment group. Treatment groups were identified as Group A, Group B, and Group C. Nineteen (35.2%) employees were in treatment Group A located at three

branches. Seventeen (31.5%) employees were in treatment Group B located at three branches. Finally, 18 (33.3%) employees were in treatment Group C located at two branches.

A much greater number of Caucasians (N=48, 88.9%) than minorities (N=6, 11.1%) were represented in the sample. The greater proportion of Caucasians in the sample reflects that of the company population which has 89.9% Caucasians and 10.2 % Minority.

Table 6 - Distribution of Sample by Race

	Frequency	Percent
Caucasian	48	88.9%
Minorities	6	11.1%
Total	54	

Employees ranged in age from 24 years to over 52 years. For reporting purposes, the employees were divided into four subgroups: 20-29 years, 30-39 years, 40-49 years and 50 or older (see Table 7). The greatest percentage of employees in the sample (63.0%) were between the ages of 20-29 years. The least percentage of employees in the sample (3.7%) were between the ages of 50-59 years. Company statistics show similar patterns of age distribution of company employees with the largest group (46.3%) between the ages of 20-29 years and the smallest group (11.9%) over 50 years.

Table 7 - Distribution of Sample by Age

	Frequency	Percent
20 - 29	34	63.0%
30 - 39	9	16.7%
40 - 49	9	16.7%
50 - 59	2	3.7%
Total	54	100.1%*

*Percentages do not sum to 100% due to rounding.

Analysis of Quantitative Data
Regarding Research Hypothesis

The following research hypotheses were tested to answer the research questions. Analyses of the data were performed for each hypothesis.

HYPOTHESIS 1: Employees who's training is reinforced by supervisors reinforced by a trainer will show a marked improvement in job productivity over employees that receive self-directed supervisor reinforcement.

NULL HYPOTHESIS 1: There is no significant difference in productivity as measured by the Branch Productivity Report between employees who received training reinforcement from supervisors supported by training department staff and employees that received reinforcement from self-directed supervisors.

As shown in Table 8, there was little difference between the group mean scores of Promises Taken per hour at the pretreatment (P) and intermediate (I) levels (3 months after treatment begins) of impact for all three groups. The mean scores from the intermediate level to the delayed (D) level (6 months after the treatment begins) showed greater

productivity improvement overtime for Group A (M = 5.4 to 16.6) and Group B (M = 4.1 to 18.9) than Group C (M = 3.7 to 3.9). The F value of 5.39 showed the differences among groups to be significantly different ($p = .008$) at the .05 alpha level.

Table 8 - Productivity Scores by Treatment Groups Across Time

	Number	Pretreatment (0 Months)		Intermediate (3 Months)		Delayed (6 Months)	
		M	SD	M	SD	M	SD
Groups A	19	5.2	3.54	5.4	4.25	16.6	17.78
Groups B	17	4.6	3.16	4.1	2.59	18.9	14.76
Groups C	18	3.4	3.31	3.7	3.29	3.9	3.01

Group By Time

	Sum of Squares	D	Mean Squares	F	Sig. of F
Within Cells	5108.01	51	100.16		
Constant	8645.61	1	8645.61	86.32	.000
Group	1079.1	2	539.55	5.39	.008

This table, however does not help in determining where (between which groups) the significant differences occur. It also does not show if there was an interaction effect with time of impact.

The results of the multivariate test of significance for an interaction effect between the Group factor and Impact factor are presented in Table 9. Table 9 shows the F value (4.07) of the multivariate test of significance to be significant ($p = .004$). This demonstrates there is a significant interaction effect between time of Impact and the treatment Groups.

Table 9 - Multivariate Test for the Interaction Effect
Between Group and Time of Impact

EFFECT - Group by Impact					
Multivariate Tests of Significance (S=2, M=-1/2, N=24)					
Test Name	Value	Approx. F	Hypoth. DF	Error DF	Sig. of F
Pillias	.27535	4.07122	4.00	102.00	.004

The MANOVA, to search for the location of differences, transforms the variables of the Impact factor, then uses the transformations as the dependent variables in a univariate analysis of the differences between the groups. There are three original variables in the Impact factor, so the analysis is limited to two transformation comparisons (N-1). The first transformed variable created (DifPI) normalizes the differences between average scores of the pretreatment and intermediate variables, (P-I). The second transformed variable (DifPIVD) created normalizes the differences between average scores of P and I compared to the delayed (D) variable, (P - I) - D.

Table 10 shows the use of the first transformation variable, DifPI, to compare differences between normalized average differences for Groups B and C, (C - B) and Groups B and C compared to Group A, (C - B) - A. The Coefficient in these analyses represents the average value of the normalized contrast of means. The first comparison provides a t-Value (0.559) which is not significant (p = .579). Hence, productivity scores for Groups B and C are not

significantly different across levels P and I of Impact (time). The second comparison also provides a t-Value (-1.119) which is not significant ($p = .268$). Productivity scores for Group A compared to Groups B and C are not significantly different across levels P and I of Impact (time).

Table 10 - Univariate Tests of Between Group Differences From Pretreatment to Three Months After Treatment Began

GROUP BY IMPACT - Estimates for DIFPI

Parameter	Coeff.	Std. Err.	t-Value	Sig. t
(C-B)	.177696944	.31820	.55845	.579
(C-B) - A	-.36118308	.32284	-1.11877	.268

Table 11 shows the use of the second transformation variable, DifPIvD, to compare normalized differences between average productivity scores for Groups B and C compared to Group A (C - B) - A. The Coefficient in these analyses represents the average value of the normalized contrast of means. The first comparison provides a t-Value (-3.508) which is significant ($p = .001$). Hence, productivity scores for Groups B and C are significantly different across levels P and I compared to level D of Impact (time). The second comparison also provides a t-Value (2.405) which is significant ($p = .020$). Productivity scores for Group A compared to Groups B and C are significantly different across levels P and I compared to level D of Impact (time).

Figure 4.1 depicts a paradigm of the results of the interaction effects between Group and Impact.

Table 11 - Univariate Tests of Between Group Differences From Pretreatment and Intermediate Levels to the Delayed Level

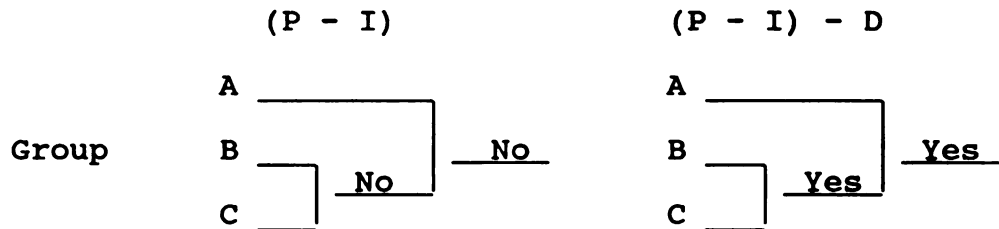
GROUP BY IMPACT - Estimates for DIFPIVD

Parameter	Coeff.	Std. Err.	t-Value	Sig. t
(C-B)	-6.8690198	1.95786	-3.50844	.001
(C-B) - A	4.77806393	1.98641	2.40537	.020

Figure 4.1

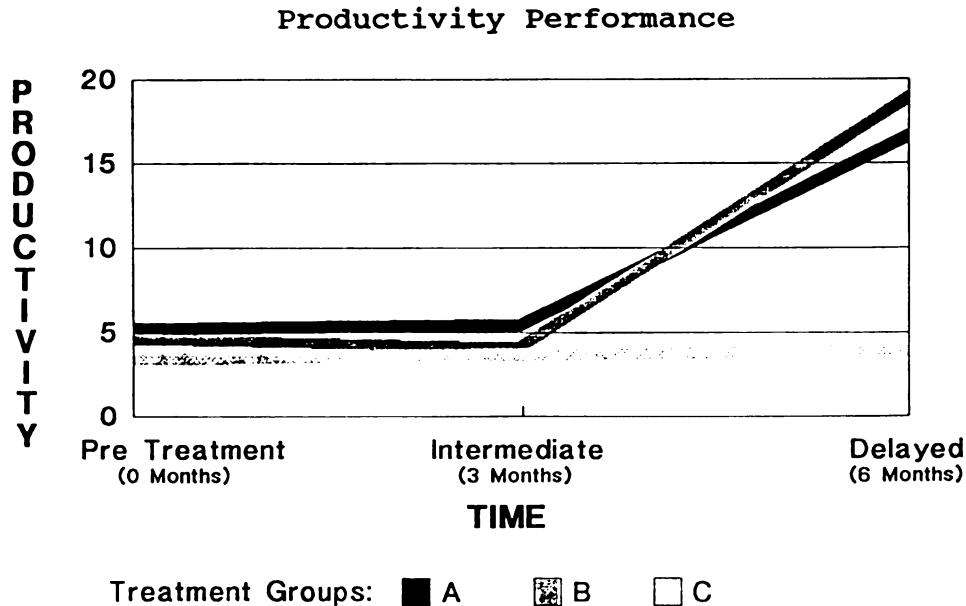
Between Group Comparison Results for Productivity

Transformed Impact Variables



Null Hypothesis 1 was rejected. The results indicated that supervisors given reinforcement by the training department significantly increased employees' productivity over employee groups whose supervisors were self-reinforcing from the Pretreatment and Intermediate levels to the Delayed level of impact. Figure 4.2 illustrates the mean scores of treatment Groups A, B, and C during each period of productivity measurement (pretreatment, intermediate and delayed). This figure demonstrates the predicted pattern of improvement.

Figure 4.2



There was little change from the Pretreatment to the Intermediate Level for any group. There was significant increase in groups A and B from the Intermediate to the Delayed levels. Group C remained fairly constant throughout the study.

HYPOTHESIS 2: Employees who's training is reinforced by supervisors reinforced by a trainer will show a marked improvement in job effectiveness over employees that receive self-directed supervisor reinforcement.

NULL HYPOTHESIS 2: There is no significant difference in effectiveness as measured by the Branch Effectiveness Report between employees who received training reinforcement from supervisors supported by training department staff and employees that received reinforcement from self-directed supervisors.

As shown in Table 12, there was little difference between the group mean scores of Promises Kept per hour at the pretreatment and intermediate levels of all three groups. The mean scores from the intermediate level to the

delayed level showed greater effectiveness improvement overtime for Group A ($M = 1.8$ to 4.3) and Group B ($M = 1.5$ to 3.4) than Group C ($M = 0.8$ to 0.7). The F value of 8.58 showed the differences among groups to be significant ($p = .001$) at the $.05$ alpha level.

Table 12 - Effectiveness Scores by Treatment Group Across Time

	Number	Pretreatment (0 Months)		Intermediate (3 Months)		Delayed (6 Months)	
		M	SD	M	SD	M	SD
Groups A	19	2.1	1.98	1.8	1.70	4.3	4.06
Groups B	17	1.7	1.50	1.5	1.14	3.4	2.79
Groups C	18	0.8	1.57	0.8	1.31	0.7	1.02

Group By Time

	Sum of Squares	D	Mean Squares	F	Sig. at F
Within Cells	334.52	51	6.56		
Constant	582.34	1	582.34	88.78	.000
Group	112.49	2	56.25	8.58	.001

The results of the multivariate test of significance for an interaction effect between the Group factor and Impact factor are presented in Table 13. Table 13 shows the F value (4.00) of the multivariate test of significance not to be significant ($p = .062$) at an alpha level of $.05$. This demonstrates there is not a significant interaction effect between time of Impact and the Treatment Groups for effectiveness scores.

Table 13 - Multivariate Test for the Interaction Effect
Between Group and Time of Impact

EFFECT - GROUP BY IMPACT

Multivariate Tests of Significance (S=2, M=-1/2, N=24)

Test Name	Value	Approx. F	Hypoth. DF	Error DF	Sig. of F
Pillias	.16660	2.31713	4.00	102.00	0.62

There still, however, was a significant difference between the treatment Groups which was not affected by time. Table 14 shows the comparison of the normalized differences between average scores for Groups B and C, (C - B) and Groups B and C compared to Group A, (C - B) - A. The Coefficient in these analyses represents the average value of the normalized contrast of means. The first comparison provides a t-Value (-3.954) which is not significant ($p = .001$). Hence, differences in effectiveness scores for Groups B and C, and by deduction for Groups A and C, are significant. The second comparison provides a t-Value (1.005) which is not significant ($p = .320$). Effectiveness scores for Group A compared to Groups B and C are not significantly different. Figure 4.3 depicts a paradigm of the results of the interaction effects between Group and Impact.

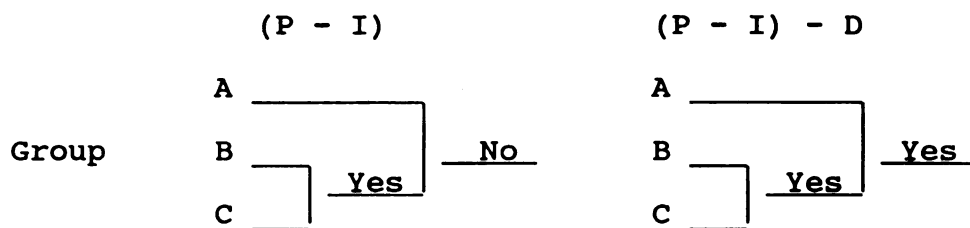
Table 14 - Univariate Tests of Between Group Differences from Pretreatment and Intermediate Levels to the Delayed Level

GROUP BY IMPACT - Estimates for DIFPIVD				
Parameter	Coeff.	Std. Err.	t-Value	Sig. t
C-B	-1.9497836	.49314	-3.95383	.000
(C-B) - A	.502823034	.50033	1.00498	.320

Figure 4.3

Between Group Comparison Results for Effectiveness

Transformed Group Variables

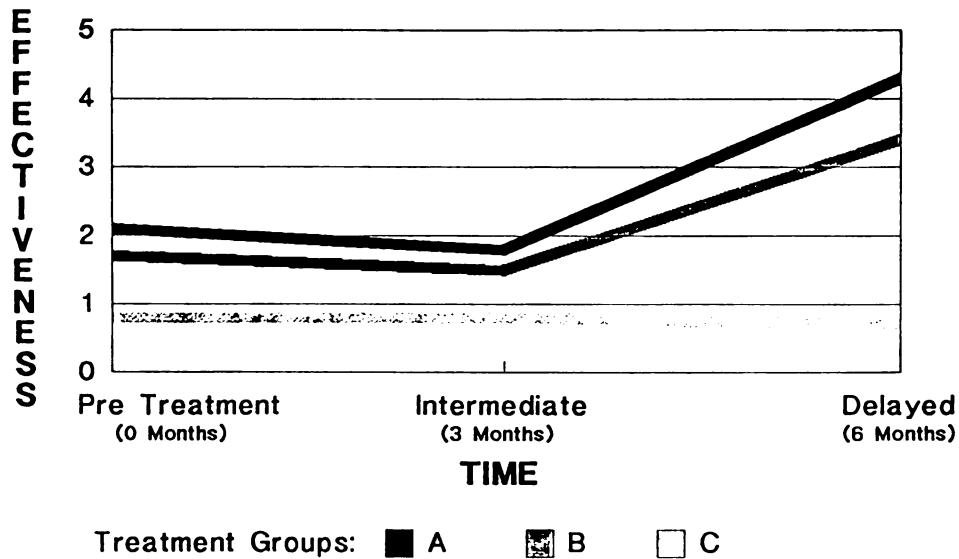


Null Hypothesis 2 was rejected. The results indicated that supervisors given reinforcement by the training department did significantly increase employees' effectiveness over employee groups who's supervisors were self-reinforcing. Time, however, did not influence these differences. Regardless of level of impact, Groups A and B were more effective than Group C.

Figure 4.4 illustrates the mean scores of treatment Groups A, B, and C during each period of effectiveness measurement (pretreatment, intermediate and delayed). This figure demonstrates the predicted pattern of improvement.

Figure 4.4

Effectiveness Performance



Between the Pretreatment and Intermediate levels groups A and B had slight decreases in mean scores while Group C remained relatively constant. For groups A and B, this demonstrates the Performance dip phenomenon. There were significant increases in Groups A and B compared to Group C from the Intermediate to the Delayed levels. Group C may not have demonstrated a performance dip because of a "basement effect". Being so close to the bottom of the scale, there was little room to decrease.

Treatment groups for Hypotheses 3 and 4 were regrouped for analysis of data. Group A was compared to Groups B and C combined (see Table 15). Table 15 shows that Group A had 22 (35.5%) survey respondents and Groups B and C combined had 40 (64.5%) survey respondents.

Table 15 - Distribution of Position by Treatment Groups

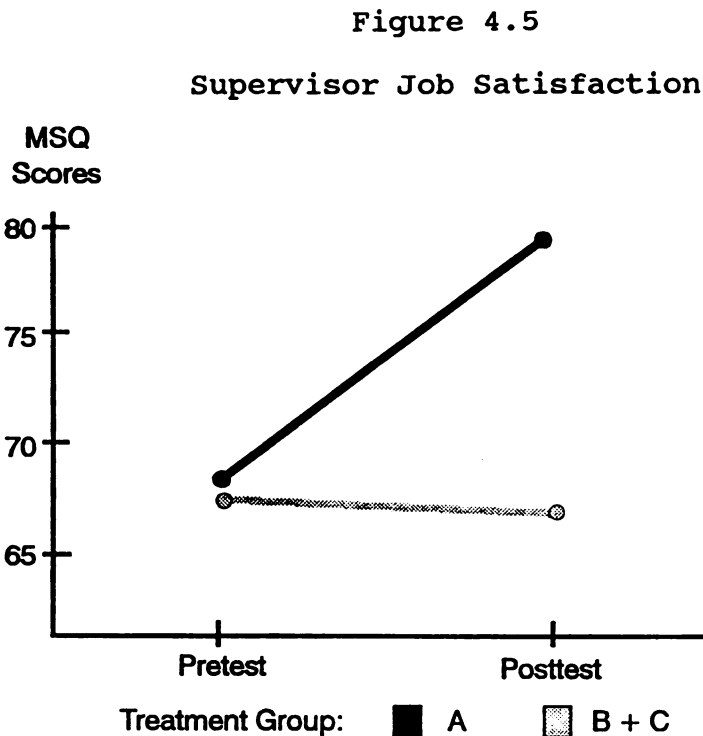
Position	Treatment Group		Total	
	A	B+C	Frequency	Percent
Supervisory	7	8	15	24.2%
Nonsupervisory	15	32	47	75.8%
Total	22	40	62	100%
Percent	35.5	64.5		

HYPOTHESIS 3: Job satisfaction for supervisors who receive training department reinforcement support and follow-up will be greater than that of supervisors that provide self-directed training reinforcement.

NULL HYPOTHESIS 3: There is no significant difference as measured by the Minnesota Satisfaction Questionnaire in supervisor job satisfaction as a result of training department reinforcement support and follow-up.

A total gain score was calculated from the pretest and posttest results for Group A, and Group B and Group C combined. As shown in Table 16, the total gain score for Group A ($M = 11.4$, $SD = 14.09$) was greater than Group B and C combined ($M = -0.2$, $SD = 6.92$). A one-way analysis of variance compared the differences between groups. The F value of 4.33 showed the differences between supervisor groups not to be significant ($p = .058$) at the .05 alpha level. No significant difference was found between supervisor job satisfaction as a result of training department reinforcement support and follow-up. Therefore, Null Hypothesis 3 was not rejected.

Figure 4.5 shows the results of the job satisfaction questionnaire (MSQ) for supervisors. The figure displays the pretest and posttest mean scores for supervisors in Treatment Group A, and Groups B and C combined.



As shown in Figure 4.5, the mean job satisfaction score of employees in Treatment Group A started at about the same level as Groups B and C combined, with only a half a point separating the two groups at the pretest. At the posttest, Treatment Group A had increased by more than 10 points. This was a greater increase than the change in mean job satisfaction score for Groups B and C combined which actually decreased slightly from pretest to the posttest. The difference between groups, however, was not a significant one and could have occurred by chance alone.

Table 16 - A One-Way Analysis of Variance Comparing Total Gain Score for Supervisors by Group

Treatment Group	Pretest	Posttest	Number	M	SD
A	68.43	79.86	7	11.4	14.09
B + C	67.88	67.63	8	-0.2	6.92

Analysis of Variance					
Source	D	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	509.18	509.18	4.33	.058
Within Groups	13	1527.21	117.48		
Total	14	2036.40			

HYPOTHESIS 4: The job satisfaction of employees who's supervisor received semi-structured training reinforcement support and follow-up from the training department will be greater than those employees with self-directed supervisor reinforcement and support.

NULL HYPOTHESIS 4: There is no significant difference in employee job satisfaction as measured by the Minnesota Satisfaction Questionnaire between employees with semi-structured training reinforcement from the training transference and employees given no structured supervisor training reinforcement of training transference.

A total gain score was calculated from the pretest and posttest results for Group A, and Groups B and C combined. As shown in table 17, the total gain score for Group A (M = 6.3, SD = 15.16) was greater than Group B and C combined (M = 3.8, SD = 13.58). A one-way analysis of variance compared the differences between groups. The F value of 0.30 showed the differences between employee groups not to be significant (p = .586) at the .05 alpha level. No significant difference was found between employee job satisfaction as a result of training department

reinforcement support and follow-up. Therefore, Null Hypothesis 4 was not rejected. The results indicated that semi-structured training department support of supervisor reinforcement of training was not a significant enough variable to influence employee job satisfaction.

Figure 4.6 shows the results of the job satisfaction questionnaire (MSQ) for employees. The figure displays the pretest and posttest mean scores for employees in Treatment Group A, and Groups B and C combined.



As shown in this figure, the mean job satisfaction score of employees in Treatment Group A started about two points below Groups B and C combined at the pretest and finished at about the same level as Groups B and C at the posttest. Treatment Group A increased by 6.3 points from pretest to posttest. This increase was greater than the 3.8

point increase in mean job satisfaction score from pretest to posttest demonstrated by Groups B and C combined. The difference, however, was not a significant one and could have occurred by chance alone.

Table 17 - A One-Way Analysis of Variance Comparing Total Gain for TA/FRs by Group

Treatment Group	Pretest	Posttest	Number	M	SD
A	63.47	69.86	14	6.3	15.16
B + C	65.41	69.22	32	3.8	13.58

Analysis of Variance					
Source	D	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	1	59.57	59.57	0.30	.586
Within Groups	44	8699.73	197.72		
Total	45	8759.30			

As suggested by the developers of the MSQ, a correlation coefficient for internal consistency was calculated for pretest and posttest measures of both the supervisor group results and the nonsupervisor group results. Cronbach alpha reliability coefficients for the supervisor group were found to be $\alpha = .76$ for the pretest results and $\alpha = .91$ for the posttest results. Reliability coefficients for the nonsupervisory group were found to be $\alpha = .91$ and $\alpha = .89$ for pretest and posttest results, respectively. These indicated high reliability throughout the study and results consistent with those of the MSQ developer.

Analysis of Course Evaluation

Descriptive statistics based on ordinal data from employee and supervisor end-of-course training evaluations are reported in Table 18. The data collected at the end of training is important because all reinforcement activities measured during this research project hinged on the assumption that the training provided to both employees and supervisors was targeted correctly and was of high quality. Table 18 shows that at least 97% of the employees felt the course content was helpful and at least 95% felt the content was relevant to their work.

Table 18 - Course Evaluation Composite Report

Item	Supervisors	Employees
		TA/FR's
Over Content		
Very Helpful	82%	53%
Helpful	18%	44%
Not Helpful	--	3%
Relevancy to Work		
Excellence	53%	58%
Good	44%	37%
Fair	3%	5%

Summary

Results of hypothesis testing and related qualitative data were presented in this chapter. Research Hypothesis 1 was supported by the results of the data analyses which demonstrated significant improvement in productivity

measures across time when both supervisors and employees received reinforcement of training compared to groups with just employee reinforcement. In testing Hypothesis 2, reinforcement of training did significantly impact measures of job effectiveness when supervisor and employees received reinforcement or training or when employees could observe the reinforcing environment. Hypotheses 3 and 4 found no significant difference in employee's job satisfaction or supervisor's job satisfaction as a result of training department reinforcement.

Chapter V will summarize this study and discuss conclusions, recommendations and future research possibilities that can be drawn from the presented hypotheses and quantitative data. Related observations which were not addressed in the research hypotheses, will also be discussed.

CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS AND REFLECTIONS

Summary

The purpose of this study was to examine the effects of various methods of supervisor reinforcement on the transference of training to on-the-job performance as indicated by measures of job productivity, effectiveness and satisfaction.

This study measured training transfer outcomes by comparing on-site supervisor reinforcement as supported, encouraged, and guided by the company training department with traditional methods of independent self-directed supervisor reinforcement of training. A sample of 54 employees was divided into three treatment groups. The treatment groups were differentiated by the types of training reinforcement received. Group A received two types of reinforcement, reinforcement of the supervisor by the training department and reinforcement of the employees by the supervisor. Group B received reinforcement of the employees by the supervisor as well as being exposed to the supervisor reinforcing environment of Group A. Group C only received reinforcement of the employees by the supervisor.

Training transfer outcomes included self reported information in addition to gathering computerized job performance data. Areas measured to determine and compare the effects of the above treatments on training transference included: perceptions of training, productivity, effectiveness, and job satisfaction.

Summary of Findings

On the basis of the findings and recommendations of this study, it can be stated that supervisors responsible for providing employee on-the-job training reinforcement will not be successful unless a process is established for providing actual or modeled support to the supervisor population. Success can be demonstrated through significant increases in productivity and effectiveness and positive increases in job satisfaction. The investigator draws the following five conclusions based upon the findings of Chapter IV.

1. Employees who's supervisors were supported by the training department showed a statistically significant increase in productivity over employees who's supervisors provided self-directed reinforcement. Productivity of the two treatment groups within the same location demonstrated a marked improvement over employees in differing locations. This observation indicates that an "overflow" effect does occur when employees are located in the same work environment and modeling of desired behavior is evident.

2. Employees who's supervisors were supported by the training department showed a statistically significant increase in effectiveness over employees who's supervisors providing self-directed reinforcement. Effectiveness of the two treatment groups within the same location demonstrated greater job effectiveness improvement than that of employees in differing locations. This observation further indicates that an overflow effect occurred between treatment groups located in the same environment. Effectiveness in the work environment measured during this research project could be dependent upon productivity. Therefore, the greatest impact of employee effectiveness may not yet have occurred when this study was terminated.

3. Based on the end-of-course training evaluations both supervisors and employees felt very positive about the content and relevancy of training they had received. Therefore, a positive attitude toward the recently completed training did exist for all employee work groups at the initial stages of this research project.

4. Although not statistically significant, supervisors supported by the training department showed a greater increase in job satisfaction over supervisors providing self-directed reinforcement. During the research, job satisfaction increased for supervisors within all treatment groups. The small size of the supervisor treatment groups appears to have had an impact on the results of this research. The extreme closeness of the results to

significance ($p = .058$) causes speculation that larger supervisor treatment groups would have created significant differences.

5. Although not statistically significant, employees who's supervisors were supported by the training department showed a greater increase in job satisfaction than employees who's supervisors provided self-directed reinforcement.

During the research project job satisfaction increased for employees within all treatment groups.

Conclusions

1. This research indicates that employee training will transfer to on-the-job performance in the presence of supervisor reinforcement. Results demonstrate that support and follow-up for supervisors is an essential element in the training transfer process. Self-directed Supervisors do not provide adequate support to employees for successful transfer of training. However, Supervisors who are provided with outside support are highly successful in providing reinforcement to the degree that job performance is significantly improved. A system for "reinforcing the reinforcers" increases training transfer and positively impacts employee performance.

2. Employee transfer of training to on-the-job performance was delayed. Immediately following training, employee productivity and effectiveness remained constant or decreased. A performance dip occurred as employees attempted to transfer the training they had received to on-

the-job performance. The performance dip lasted approximately three months. This lends support to the theory that there is a strong likelihood that employee job performance may dip before improvement. This dip appeared to result from new skills and techniques feeling awkward and uncomfortable compared to the old comfortable familiar ways of doing things.

Employees who's supervisors' reinforcement efforts were supported and followed-up by training department staff and employees/supervisors in the same location as those supported by training department staff overcame the performance dip and demonstrated improved performance. Over the same time span, employees in locations with self-directed supervisor training reinforcement and no support or follow-up from the training department, were unable to overcome the performance dip and ultimately returned to pre-treatment levels of productivity and effectiveness.

3. Based on research findings, it is suggested that an "overflow" effect occurs within work groups at the same locations. The job performance of the two treatment groups (one with supervisors receiving reinforcement support and follow-up by the training department, the other with self-directed supervisor reinforcement) within the same location demonstrated a marked improvement over employees in differing locations (with only self-directed supervisor reinforcement). Thus when supervisors/employees are located in the same work environment and desired behavior is

modeled, emulation occurs and positively impacts performance.

4. To effectively measure transference some form of standard measurement is needed. The utilization of standard company computerized reports which measured employee productivity and effectiveness increased the applicability of the results to real world application. Changes are more likely to occur if real world application can be established and applied to work environments.

5. Participation in training, regardless of supervisor reinforcement, appears to have a positive impact on job satisfaction. During the research, job satisfaction increased for supervisors and employees within all treatment groups. The small size of the groups may have had an impact on the results. The extreme closeness to significance (especially within the supervisor groups $p = .058$) causes speculation that larger groups would have created a significant difference over time.

Recommendations

1. Previous researchers have focused on immediate feedback training transfer results in nonindustrial settings. Delayed outcomes that may have occurred have not been adequately investigated. The present research demonstrated the importance of examining delayed outcomes in actual work environments.

2. Adult educators, and business and industry training are encouraged to use the information provided through this

research in developing and selecting instructional development and delivery processes. Training content, the classroom setting, and work environment, must be considered in conjunction with desired on-the-job performance.

3. Education and training professionals should develop and expand training to include reinforcement of training transfer in a similar fashion to the one examined in this study. Training managers need to look beyond the classroom to the workplace. Transfer requirements and needs should be examined and included as a necessary part of the training process. Competitive demands, quality standards and the need for training to demonstrate a return on investment will continue to increase the need for training transference.

4. A system similar this research for reinforcing supervisor efforts needs to be established and maintained by management and trainers alike. As demonstrated in this research, supervisors need reinforcement support and follow-up as much as employees do.

5. Immediately upon returning to the worksite employees should be required to demonstrate their recently learned skills on-the-job. A mechanism for monitoring such activities needs to be established.

6. Employees should be provided with periodic reminders of desired behavior. Opportunities to observe desired behaviors, practice and improve should always be available.

Future Research

Similar studies should be conducted to expand on the applications of the current study. The following are just a few areas which the writer feels need to be explored.

Effective Reinforcement Factors:

1. To further examine the impact of the reinforcement provider, a study should be conducted in a business and industry setting with follow-up and support to the supervisors for training transfer provided by some group other than the training department.

2. A study to examine various reinforcement techniques to determine the most effective degree of reinforcement and the most effective duration of reinforcement.

Application Setting:

1. A study of different industrial settings to compare and contrast the results and findings with those from this study.

2. A study in a different country or countries to examine if the model developed in this research could be applied in a different culture.

3. A study in a centralized environment to compare and contrast the results and findings with those from this decentralized research project.

4. A study to examine if changes in environment or supervision impact performance after the transfer process has been completed and improvement indicated.

Replication:

1. A longitudinal study to examine if there is a maintenance factor or if these study results apply over an extended timeframe.

2. A study with a larger sample size to compare and contrast to the results and findings of this study's smaller treatment population.

3. A research project to examine a variety of training transfer support and reinforcement methods for both employees and supervisors.

Reflections

In this section, meaningful issues external to the research hypotheses are examined. Certain observations regarding the transfer process were observed during this research study.

The issue of transference goes beyond training to other elements, projects or programs introduced to an employee population. Most new programs attempt to bring about a change in employee behavior. Programs like Quality and Customer Relations do not reach the desired level of integration unless they are given visible management support and participation and on-site reinforcement and follow-up. Frequently reinforcement efforts fail because the employee(s) responsible for reinforcement do not know how to provide reinforcement or are given no support and follow-up. Consequently, the programs fail to reach the desired outcome. As programs are developed and implemented, they

should include a mechanism for providing ongoing reinforcement support and follow-up for the program and the individuals responsible for overseeing the program on-the-job.

This research clearly demonstrated the need for reinforcement if training is to transfer to on-the-job performance. It further identified the on-site supervisor as the individual responsible for providing immediate reinforcement of training transfer. However, it left unanswered who was to provide the necessary reinforcement support and follow-up for the supervisor. As found in the study, "reinforcing the reinforcer" is a key element in the successful transfer of training. In the study presented, the training department filled this role. However, training departments may not have the resources or be the appropriate choice for every program or process introduced into an organization. Thus alternative mechanisms for providing supervisors with the desired reinforcement support and follow-up must be explored. These could vary widely from individuals and departments to performance requirements and competencies, demonstrations, special practices, policies and procedures.

In conclusion, a review of the study indicates that reinforcement of training is necessary for transfer to occur and improve job performance. Establishing and maintaining this support and follow-up process benefits the supervisors, employees and the company. The establishment of a tiered

process for reinforcement support for both supervisors and employees results in a more comprehensive and effective training program. Utilizing this or a similar process could improve results for other types of programs or processes requiring changes in beliefs or behavior.

APPENDIX

APPENDIX A
CONSENT LETTERS

JOB SATISFACTION QUESTIONNAIRE CONSENT

Dear _____:

You have been selected to participate in a research project designed to help determine the degree to which the transfer of training to on-the-job performance impacts your job satisfaction.

You will be asked to complete a survey now and several months from now to determine if there has been any change in your job satisfaction over time.

The attached questionnaire should take you about 10-20 minutes for you to complete. Please be as honest and frank as possible. Your responses will be kept in total confidence. You will remain anonymous in any reports or findings that result from this process.

Participation in this process is voluntary.

You indicate your voluntary agreement to participate by completing and returning the attached questionnaire.

Should you have any questions regarding your participation, please contact Lynn Bradfield (ext 3522).

Thank you for your assistance in this matter.

Lynn D. Bradfield

EMPLOYEE PROJECT CONSENT LETTER

Dear Employee:

You have been selected to participate in a research project designed to measure the degree to which training has transferred to on-the-job performance.

The attached evaluation should take you about 20-30 minutes to complete. Please be as honest and frank as possible. Your responses will be kept in total confidence and you will remain anonymous in any reports or findings that result from this process.

Participation in this process is voluntary.

You will indicate your voluntary agreement to participate by completing and returning the attached evaluation.

Should you have any questions regarding your participation, please contact Lynn Bradfield (ext 3522).

Thank you for your assistance in this matter.

Lynn D. Bradfield

APPENDIX B
COURSE MATERIAL

EMPLOYEE TRAINING

Purpose: To provide training that will serve as a basis for measuring training transference as impacted by supervisor reinforcement.

The general purpose of the specific training is to provide Telephone Adjusters (TA) and Field Representatives (FR) with improved understanding, awareness and utilization of collection techniques and procedures; against which increased job productivity and effectiveness can be measured. Specific training topics included:

- Team Building
- Personality Profiling
- Customer/Service Collection Techniques and Procedures
- Customer Relations
- Quality Improvement

The training provided was developed in conjunction with field experts. The general contents or topics of the training resulted from a needs analysis survey and field experts input.

Process: The entire company population of over 600 Telephone Adjusters and Field Representatives will be scheduled to attend a two day workshop. The workshops will be conducted by training department staff over a ten week period. Thirty-two workshops will be held at various locations throughout North America.

Products: Program participants will be asked to set certain goals or action plans for them to implement upon their return to their branch and normal work environment.

These goals will be designed to support the training and encourage on-the-job transference. The goals will serve as the basis for initial contact, discussion and reinforcement from the identified treatment supervisors. All participants were asked to complete an end-of-course evaluation.

SUPERVISOR TRAINING

Purpose: Supervisor training had a three-fold purpose. First, and primarily, to provide supervisors with basic management tools for improving on-the-job transfer of employee training. Second, to expand supervisors ability to manage and motivate their employees. Third, to provide the supervisors with an awareness and understanding the training their TA/FR's received.

Since this supervisor group had previously received no formal management training, numerous management techniques and practices were introduced. Topics included the following:

- Coaching and Counseling
- Recognition
- Listening Skills
- Quality/Customer Relations
- Problem Solving
- Performance Appraisals and Management By Objectives
- Collection Procedures and Techniques

The training provided was developed in conjunction with field experts. The general content and topics resulted from feedback from TA/FR training sessions, upper management and a training needs analysis survey.

Process: Training was conducted for all 125 Customer Service Supervisors within the company. The instruction was provided in three days of formal classroom training. The training was delivered through a variety of avenues: role play sceneries, videos, expert speakers, group case studies and problem solving activities. The supervisor training included an in-depth review of the training provided to the TA/FR groups. A major portion of the training was dedicated to teaching the supervisors "how to" follow-up and support their TA/FR's as they attempt to implement the training they had received. Supervisors were directed to provide daily verbal and written training reinforcement support to their TA/FR's.

Specific follow-up ideas, suggestions and instructions were given to all of the supervisors. As part of the training, each supervisor developed an action plan for implementation upon their return to the branch. The action plan included steps, goals and procedures designed to reinforce the TA/FR's training. These specific goals and procedures were reviewed and approved by the training department.

The supervisors were asked to return to their respective branches and incorporate training reinforcement into their daily routine. They were further instructed to conduct regular meetings (at least one per month). These meetings were to serve as a basis for them to follow-up and expand or build on the training their employees received.

Products: Program participants received training designed to improve their overall effectiveness as a supervisor. During the training they were asked to set certain goals for implementation upon their return to the branch. All participants were encouraged to implement what they learned in the training and to reinforce the training their TA/FR's received.

Upon training completion all supervisors had the same basic management tools and guidelines for reinforcing training transfer to on-the-job performance.

All participants completed an end-of-course evaluation.

CUSTOMER SERVICE SUPERVISORS

3 DAY CLINIC AGENDA

Day 1

8:00 AM - 8:30 AM	Introductions
8:30 AM - 12:00 PM	Personality Profile
12:00 PM - 1:00 PM	Lunch
1:00 PM - 5:00 PM	Customer Service Specialist Module

Day 2

8:00 AM - 10:00 AM	Customer Service Specialist Module C.A.S.
10:00 AM - 12:00 PM	Coaching and Counseling
12:00 PM - 1:00 PM	Lunch
1:00 PM - 5:00 PM	Recruitment and Hiring
6:00 PM	Dinner

Day 3

8:00 AM - 9:30 AM	Listening Skills
9:30 AM - 10:30 AM	Quality Customer Relations
10:30 AM - 12:00 PM	Team Building Objective
12:00 PM - 1:00 PM	Lunch
1:00 PM - 4:40 PM	Recognition Performance App.

TELEPHONE ADJUSTER-FIELD REPRESENTATIVE
CUSTOMER SERVICE CLINIC

AGENDA

Day One

8:00 AM - 9:30 AM	Welcome/Orientation
9:30 AM - 10:30 AM	Warm-Up Activity
10:30 AM - 12:30 PM	Personality Profile
12:30 PM - 1:30 PM	Lunch
1:30 PM - 2:30 PM	Personality Profile continued
2:30 PM - 5:30 PM	Customer Service Module
6:00 PM	Dinner

Day Two

8:00 AM - 9:00 AM	Quality Customer Relations
9:00 AM - 12:00 PM	Customer Service Module
12:00 PM - 1:00 PM	Lunch
1:00 PM - 5:00 PM	Customer Service Module

PERSONALITY PROFILE

OBJECTIVES

During this session you will:

- Develop a profile of behavioral characteristics.
- Identify strengths and limitations of each behavioral style.
- Explore ways to enhance communication between styles.
- Develop strategies to become more effective in using behavioral characteristics.

CUSTOMER SERVICE SUPERVISOR MODULE

OBJECTIVES

- Understand the importance of the customer service specialists responsibilities and realize how rewarding the job can be,
- Acknowledge and accept the need to treat delinquent accounts as valued customers with temporary difficulties,
- Be able to understand and explain information contained in C.A.S.S. screens and to train your employees in the proper usage of the C.A.S.S. application,
- Understand each of the five steps in making an effective telephone contact,
- Develop and improve your employees ability to evaluate customer reasons for delinquency,
- Educate your employees in reaching agreements that meet the requirements of Chrysler Credit and the customer.

TELEPHONE ADJUSTER/FIELD REPRESENTATIVE TRAINING MODULES

OBJECTIVES

- Understand the importance of the telephone adjuster's responsibilities and realize how rewarding the job can be,
- Acknowledge and accept the need to treat delinquent accounts as valued customers with temporary difficulties,
- Be able to understand the information contained in C.A.S.S. screens and to interpret as well as make standard notations on appropriate screens,
- Understand each of the five steps to making an effective telephone contact,
- Be able to evaluate customer reasons for delinquencies and work with customers to reach an agreement that meets the requirements of Chrysler Credit and the customer.

COACHING AND COUNSELING TRAINING

OBJECTIVES

- To differentiate between coaching and counseling.
- To understand the roles of coaching and counseling in business and their role in organizational growth and development.
- To apply managerial coaching and counseling skills in the work setting which are effective and which produce results; results which make your work and the work of the employee more effective and productive.

RECRUITMENT AND HIRING

OBJECTIVES

- To increase awareness of recruitment practices and procedures,
- To identify proper interviewing practices,
- To improve individual interviewing skills.

EFFECTIVE LISTENING

OBJECTIVES

- To examine the elements of effective listening,
- To perform listening skills self-assessment,
- To learn the importance of listening,
 - Costs of Ineffective Listening
 - Benefits of Effective Listening

QUALITY AND CUSTOMER RELATIONS

OBJECTIVES

- To examine Customer Relations Excellence from a new perspective, that of customer service quality.
- To eliminate the use of rude and offensive customer service practices.
- To illustrate that inside our organization, employees are customers to each other.
- To emphasize the importance of using good telephone skills on internal and external customer calls.
- To develop actions plans for improving your own customer relations.

TEAM BUILDING

OBJECTIVES

- To provide a warm-up activity to get participants acquainted.
- To develop the beginnings of a work group atmosphere.
- To demonstrate the increased effectiveness of working together as a team.

RECOGNITION MODULE

OBJECTIVES

- To create an understanding of the important role recognition plays in maintaining employee morale.
- To establish techniques for developing and providing recognition programs and activities.
- To introduce and discuss the results of positive feedback.
- To discuss techniques for giving both positive and negative feedback with maximum results.
- To develop a recognition action plan to be implemented upon returning to the branch.

PERFORMANCE APPRAISAL

OBJECTIVES

- To improve and promote the effective utilization of performance appraisals.
- To establish performance appraisals as one of many tools that can and should be used to develop employees.
- To create an atmosphere where performance appraisals are looked upon as a tool for building employee participation, communication and rapport.
- To establish that performance appraisals should be used continuously throughout the year as measurement tools against which employees and supervisors strive.
- To encourage proactive planning and development toward future opportunities and growth.

APPENDIX C
INSTRUMENTS

COURSE EVALUATION
CUSTOMER SERVICES DEPARTMENT
TELEPHONE ADJUSTER FIELD REPRESENTATIVE CLINIC

Please take a few minutes to complete the following evaluation:

How do you rate. . . EXCELLENT GOOD FAIR POOR

The overall content of the clinic? _____

Comments: _____

The length of the clinic? _____

Comments: _____

The relevancy of the material to your work? . _____

Comments: _____

Notification of the clinic and its arrangements? _____

Comments: _____

What portions of the clinic do you feel were most helpful to you? _____

What suggestions do you have for improving the clinic? _____

Please give us your overall rating of the clinic:

NOT HELPFUL

HELPFUL

VERY HELPFUL

1

2

3

4

5

COURSE EVALUATION
CUSTOMER SERVICES SUPERVISOR

Please take a few minutes to complete the following evaluation:

EXCELLENT GOOD FAIR POOR

The overall content of the program was

Comments: _____

The length of the clinic was

Comments: _____

How do you rate this clinic in providing you personally with insights about yourself and others?

Comments: _____

How do you rate the relevancy of the material presented to your work?

Comments: _____

What portions of the clinic do you feel will be most helpful to you? _____

What suggestions have you for improving the clinic? _____

Notification of this program and it's arrangement were

Comments: _____

Please rate the overall clinic:

NOT HELPFUL

HELPFUL

VERY HELPFUL

1

2

3

4

5

Date/Location of Clinic

Name/Branch (optional)

minnesota satisfaction questionnaire

(short-form)



Vocational Psychology Research
UNIVERSITY OF MINNESOTA

Copyright 1977

minnesota satisfaction questionnaire

The purpose of this questionnaire is to give you a chance to tell how you feel about your present job, what things you are satisfied with and what things you are not satisfied with.

On the basis of your answers and those of people like you, we hope to get a better understanding of the things people like and dislike about their jobs.

On the next page you will find statements about your present job.

- Read each statement carefully.
- Decide how satisfied you feel about the aspect of your job described by the statement.

Keeping the statement in mind:

—if you feel that your job gives you more than you expected, check the box under “**Very Sat.**” (Very Satisfied);

—if you feel that your job gives you what you expected, check the box under “**Sat.**” (Satisfied);

—if you cannot make up your mind whether or not the job gives you what you expected, check the box under “**N**” (Neither Satisfied nor Dissatisfied);

—if you feel that your job gives you less than you expected, check the box under “**Dissat.**” (Dissatisfied);

—if you feel that your job gives you much less than you expected, check the box under “**Very Dissat.**” (Very Dissatisfied).

- Remember: Keep the statement in mind when deciding how satisfied you feel about that aspect of your job.
- Do this for all statements. Please answer every item.

Be frank and honest. Give a true picture of your feelings about your present job.

Ask yourself: How **satisfied** am I with this aspect of my job?

Very Sat. means I am very satisfied with this aspect of my job.

Sat. means I am satisfied with this aspect of my job.

N means I can't decide whether I am satisfied or not with this aspect of my job.

Dissat. means I am dissatisfied with this aspect of my job.

Very Dissat. means I am very dissatisfied with this aspect of my job.

On my present job, this is how I feel about . . .	Very Dissat.	Dissat.	N	Sat.	Very Sat.
1. Being able to keep busy all the time	☐	☐	☐	☐	☐
2. The chance to work alone on the job	☐	☐	☐	☐	☐
3. The chance to do different things from time to time	☐	☐	☐	☐	☐
4. The chance to be "somebody" in the community	☐	☐	☐	☐	☐
5. The way my boss handles his/her workers	☐	☐	☐	☐	☐
6. The competence of my supervisor in making decisions	☐	☐	☐	☐	☐
7. Being able to do things that don't go against my conscience	☐	☐	☐	☐	☐
8. The way my job provides for steady employment	☐	☐	☐	☐	☐
9. The chance to do things for other people	☐	☐	☐	☐	☐
10. The chance to tell people what to do	☐	☐	☐	☐	☐
11. The chance to do something that makes use of my abilities	☐	☐	☐	☐	☐
12. The way company policies are put into practice	☐	☐	☐	☐	☐
13. My pay and the amount of work I do	☐	☐	☐	☐	☐
14. The chances for advancement on this job	☐	☐	☐	☐	☐
15. The freedom to use my own judgment	☐	☐	☐	☐	☐
16. The chance to try my own methods of doing the job	☐	☐	☐	☐	☐
17. The working conditions	☐	☐	☐	☐	☐
18. The way my co-workers get along with each other	☐	☐	☐	☐	☐
19. The praise I get for doing a good job	☐	☐	☐	☐	☐
20. The feeling of accomplishment I get from the job	☐	☐	☐	☐	☐
	Very Dissat.	Dissat.	N	Sat.	Very Sat.

BRANCH PRODUCTIVITY ANALYSIS
Month End Report

Location Code: 088888
Company: *
Business: *
Category: F

Adjuster	Hours Worked	Total CCH Lines Entered	Number Called (OC, IC)	Number Contacted (OC, IC, W/A, Y)	Promises Taken	Late Chgs Collected
Branch	Act: 62.5 /Hr:	1443 23.1	1136 18.2	240 3.8	222 3.6	\$391.69

$$\text{Productivity} = \frac{\text{Number of Promises Taken}}{\text{Hours Worked}} = \frac{222}{62.5} = 3.6$$

BRANCH EFFECTIVENESS ANALYSIS
Month End Report

Location Code: 088888
Company: *
Business: *
Category: F

Adjuster	Hours Worked	Total CCH Lines Entered	Total Prom	Kept Prom Pct	Brkn Prom Pct	Open Prom	Open Pct	Late Chgs Collected
Branch	Act: 62.5 /Hr:	1443 23.1	222 3.6	25 .4	11% 15%	164 33	0% 15%	\$391.69

$$\text{Effectiveness} = \frac{\text{Number of Kept Promises}}{\text{Hours Worked}} = \frac{25}{62.5} = 0.4$$

APPENDIX D
LETTERS OF PERMISSION

OFFICE OF VICE PRESIDENT FOR RESEARCH
AND DEAN OF THE GRADUATE SCHOOL

EAST LANSING • MICHIGAN • 48824-1046

December 18, 1991

Lynn D. Bradfield
1749 Laurel Oak
Flint, MI 48507

RE: A COMPARATIVE STUDY OF SUPERVISOR/MANAGER IMPACT ON IMPLEMENTATION AND ON-THE-JOB TRANSFER OF EMPLOYEE TRAINING AND ITS EFFECT ON JOB SATISFACTION, PRODUCTIVITY, AND EFFECTIVENESS, IRB #91-585

Dear Ms. Bradfield:

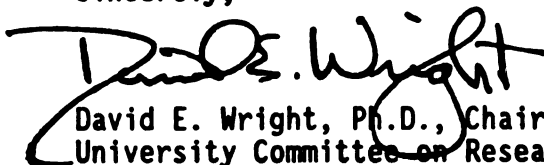
The above project is exempt from full UCRIHS review. The proposed research protocol has been reviewed by another committee member. The rights and welfare of human subjects appear to be protected and you have approval to conduct the research.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval one month prior to December 13, 1992.

Any changes in procedures involving human subjects must be reviewed by UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to my attention. If I can be of any future help, please do not hesitate to let me know.

Sincerely,



David E. Wright, Ph.D., Chair
University Committee on Research Involving
Human Subjects (UCRIHS)

DEW/deo

cc: Dr. Cas Heilman



UNIVERSITY OF MINNESOTA
TWIN CITIES

111
Department of Psychology
Elliott Hall
75 East River Road
Minneapolis, Minnesota 55455

Nov. 5, 1991

Lynn D. Bradfield
Chrysler Financial Corp.
Training Dept.
27777 Franklin Road
Southfield, MI 48034

Dear Lynn D. Bradfield:

We are pleased to grant you permission to use the Minnesota Satisfaction Questionnaire short form in your research. We acknowledge receipt of payment for 60 copies of the instrument.

Vocational Psychology Research is currently in the process of revising the MSQ manual and it is very important that we receive copies of the research study results in order to construct new norm tables. Therefore, we would appreciate receiving a copy of your results including 1) demographic data of respondents, including age, education level, occupation and job tenure; and 2) response statistics including scale means, standard deviations, Hoyt reliability coefficients and standard error of measurement. If your tests are scored by us, we will already have the information detailed in item #2.

Your providing this information will be an important and valuable contribution to the new MSQ manual. If you have any questions concerning this request, please feel free to call me at 612-625-1367.

Good luck with your research!

Sincerely,

A handwritten signature in cursive script, appearing to read 'Clifford Neville'.

Clifford Neville
Assistant Director
Vocational Psychology Research

DEPARTMENT OF PSYCHOLOGY
PSYCHOLOGY RESEARCH BUILDING

EAST LANSING • MICHIGAN • 48824-1117

December 14, 1992

TO: Lynn Bradfield

FROM: Kevin Ford *KF*

Re: Material from Baldwin and Ford (1988) paper

This letter is to confirm our earlier conversation regarding the use of material from the Baldwin and Ford (1988) paper for your dissertation. During that conversation, it was clear that the model that we developed and some of the supporting materials were quite relevant for your dissertation. I agreed that instead of reinventing the literature that we reviewed, that it was in your best interest to use that material from Baldwin and Ford as support for your dissertation project. It must also be noted that the copyright to the tables/figures and material in the Baldwin and Ford paper are held by the Publisher - Personnel Psychology, and that permission must be granted from the Publisher prior to publishing any article from your dissertation that might liberally cite material or present the tables/figures from that article.

RECEIVED

DEC 17 1992

L. D. Bradfield

LIST OF REFERENCES

LIST OF REFERENCES

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