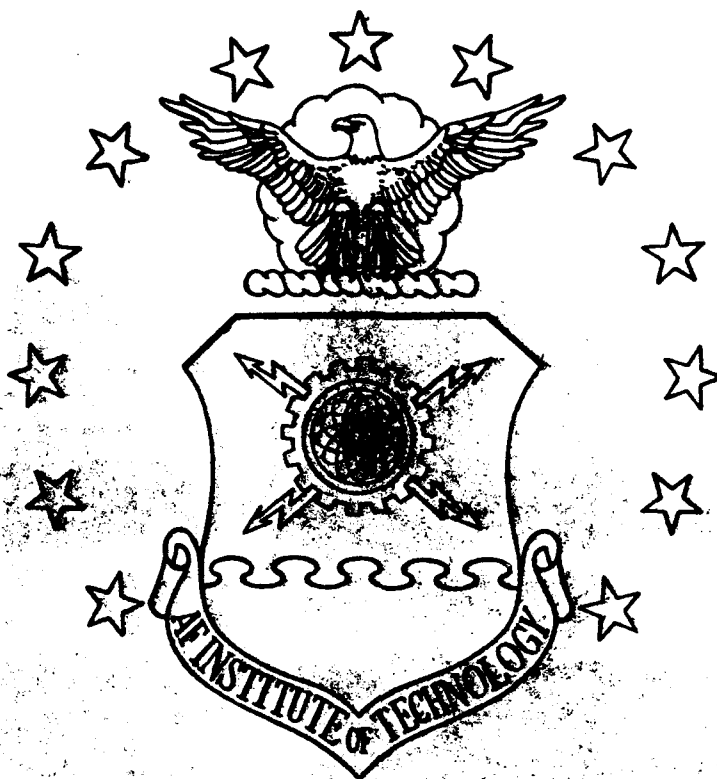


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EFFECTIVE TRAINING METHODS
FOR TEACHING HUMAN SKILLS
TO SUPPLY OFFICERS

THESIS

Kevin D. Illsley, Captain, USAF

AFIT/GLM/LSR/90S-28

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EFFECTIVE TRAINING METHODS FOR TEACHING
HUMAN SKILLS TO SUPPLY OFFICERS

THESIS

Presented to the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Logistics Management

Kevin D. Illisley, B.S.

Captain, USAF

September 1990

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Kevin D. Illsley

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Abstract

This study identifies the most effective training methods for teaching a set of human skills to Air Force supply officers. The goal is to improve the performance of supply officers so they may function effectively as Chiefs of Supply. Members of the American Society of Training and Development and the National Society of Performance and Instruction were surveyed to collect data.

Eleven training methods served as the bases for this study: behavior modeling, classroom lecture, computer based training, correspondence course, on-the-job training, mentoring, simulation exercise, seminar/workshop, video tape, and wilderness experiences. Eleven human skills used in the study: acting consistently, communicating a shared understanding, emphasizing performance, enthusiasm, foresight, inspiring subordinates, introspection, performance communication, planning and organizing, providing praise and recognition, and setting goals.

The most effective training methods were identified for training each specific human skill. The mentoring training method was judged the most effective method for teaching a majority of the skills.

EFFECTIVE TRAINING METHODS FOR TEACHING HUMAN SKILLS TO SUPPLY OFFICERS

I. Introduction

General Issue

Improving the quality of military officers is at the heart of the new Officer Professional Development (OPD) program. General Welch, USAF Chief of Staff, stated, "The Air Force leadership and the individual officer have a common interest--ensuring that every officer has the maximum opportunity to grow in professional competence and to realize that full potential" (OPD Guide, 1989:5). An important step along the path of professionalism is training. Training includes, training to be an Air Force officer, training to do a specific job, and training to grow and develop professionally.

In the Air Force, officers receive training through their commissioning source, technical training school, and professional military education. Does this training adequately prepare an officer for future positions? Can this training be improved upon so that the result is a better quality officer? Although this study does not attempt to answer these key questions for all officers, these issues will be addressed for Air Force supply officers.

Background

Lt Col Boyer, an Air Force Research Associate at the Center for Creative Leadership, proposes that the Air Force institute a Company Grade Professional Development Program. He states that:

The Air Force's pre-commissioning programs are producing young officers ready and willing to serve, who have a high expectations about their entrance into military service. However, current research indicates that by the third year of active duty, many junior officers, while technically talented, are leadership impoverished. These deficiencies are evident in their abilities to motivate, provide negative feedback, assign responsibility, and give personal counseling to subordinates. (Boyer, 1989:1)

Lt Col Boyer's comments suggests motivation is not the problem. He states that the deficiencies are in the officer's abilities (i.e. capabilities). Major Dobias contends, in a research study for Air Command and Staff College,

that the failure to develop managerial capability among many officers can be attributed to inadequate Air Force guidance on management development, insufficient emphasis on management fundamentals in formal education and training schools, and lack of control over assurances that management development is achieved in a systematic manner. (Dobias, 1974:6)

He notes that supply officers' assignments and job positions may vary greatly. Because of this large variation in jobs, Major Dobias states that "the management development needs of these (supply) officers are immediate and quite extensive" (Dobias, 1974:17).

Capt Brodeur and Capt Currie, in an Air Force Institute of Technology thesis, Assessment of Initial Technical Training for USAF Supply Officers, conclude that

while Air Force policy dictates these subjects (military and civilian personnel management, briefing and writing techniques, and other administrative matters) should be taught at professional military education courses, it appears there may be gaps in the Air Force management education system. Supply officers' perceived need for management education should be explored. (Brodeur and Currie, 1984:76)

These three statements emphasize the need to improve the management development of company grade officers and, in particular, supply officers. The Air Force Supply Executive Board (AFSEB) has expressed concern over the skills of supply officers (McAlear, 1989:2). The AFSEB is made up of the major command Directors of Supply, including the Air National Guard and Air Force Reserve. These senior supply officers observed that many supply officers were lacking the skills required for one of the most important jobs in the career field, a Chief of Supply.

Supply officers must be able to fulfill the duties of both a Squadron Commander and a Chief of Supply. Supply officers are not only commanders, but also accountable officers. In fact, there are approximately 100 positions worldwide in which the officer fulfills both roles simultaneously. One role is the Squadron Commander and the other is the Chief of Supply. Normally, selection for these positions occurs when the officer reaches the rank of senior

Major or Lieutenant Colonel. The selection to this position is crucial to the future success of the officer. However, approximately two-thirds of the eligible supply officers are not selected to be Commanders/Chiefs of Supply. Two problems occur when a supply officer is not selected; 1) he is no longer promotable, and 2) there is a shortage of qualified Commanders/Chiefs of Supply.

The AFSEB wanted to improve the skills of company grade supply officers. "Everyone (at the AFSEB meeting) agreed that some set of essential skills were missing in the current junior managers (supply officers), but no one could articulate what the skill set was" (Peterson and McAlear, 1989:5). The first step is to determine what skills were missing and the next step is then to determine the best training methods for teaching those skills.

Focus of Study

This is a follow-on study to the AFIT thesis Developing Chiefs of Supply by Capt Dana McAlear. In her thesis, Capt McAlear identified a set of skills for which supply officers require training (McAlear, 1989:72). This study builds upon teaching each of these skills.

Capt McAlear identified the critical skills required for a supply officer to become a Chief of Supply. First, the broad skill categories important to Chiefs of Supply were determined by Lt Col Tim Peterson using a model developed by Robert Katz.

Katz identified three broad learnable skills; technical, human, and conceptual (Katz, 1974:90). Katz defines the technical skill as implying "an understanding of, and proficiency in, a specific kind of activity, particularly one involving methods, processes, procedures, or techniques" (Katz, 1974:91). The human skill "is the executive's ability to work effectively as a group member and to build cooperative effort within the team he leads" (Katz, 1974:91). The conceptual skill

involves the ability to see the enterprise as a whole; it includes recognizing how the various functions of the organization depend on one another, and how changes in any one part affect all the others. (Katz, 1974:93)

To determine the broad skill category missing for Chiefs of Supply, a three part survey of 23 Directors of Supply was conducted. The first two sections used the critical incident technique. The first section asked for an example (based on observation) of a successful Chief of Supply. The second section asked for an example (based on observation) of an unsuccessful Chief of Supply. The third section asked the respondent to rate the amount of time spent on each one of the three broad skills. The results of the third section are shown in Table 1. The greatest percentage of the Directors of Supply time is spent on the human skill.

Table 1.

Broad Skill Category Results
Percent of Time Spent in Each Category

| Skill | Range | Mean | Rank |
|------------|-------|------|------|
| Technical | 5-50 | 22 | 3 |
| Human | 20-70 | 50 | 1 |
| Conceptual | 18-70 | 28 | 2 |

(Peterson and McAlear, 90:9)

The critical incidents were analyzed using a content analysis methodology. Each incident was placed in one of the broad skill categories by three independent raters.

Table 2.

Critical Incidents Findings

| Skill | Mean Scores | Successful Incidents | Unsuccessful Incidents |
|------------|-------------|----------------------|------------------------|
| Technical | 22 | 12% | 19% |
| Human | 50 | 60% | 57% |
| Conceptual | 28 | 28% | 24% |

(Peterson and McAlear, 90:9)

The results of the first two sections are shown in Table 2. For both successful and unsuccessful incidents the critical skill is the human skill.

Based on the results of this survey, "it was decided that an examination of the human skill category was in order" (Peterson and McAlear, 1990:10). A list of potential human skills was developed based on an extensive literature

review. Based on this list of skills a survey was constructed. Supply officers (First Lieutenant through Major) and Chiefs of Supply were then surveyed to determine the important human skills for a Chief of Supply and to identify those skills which required training.

Table 3.

Top Sixteen Skills Requiring Training

| |
|--------------------------------------|
| Acting Consistently |
| Inspiring Subordinates |
| Clarifying Work Roles |
| Judgment |
| Emphasizing Performance |
| Solving Problems |
| Administering Discipline |
| Performance Communication |
| Managing Stress |
| Planning and Organizing |
| Providing Praise and Recognition |
| Communicating a Shared Understanding |
| Foresight |
| Enthusiasm |
| Introspection |
| Setting Goals |

(McAlear, 1989:72)

The top sixteen skills requiring training are shown in Table 3. These skills are the combined top ten skills requiring training for Chiefs of Supply and supply officers.

Numerous factors affect the decision on the selection of the training method. For example, the characteristics of the learners and the type of material are two major factors. The selection of a training method is complicated by the fact that there may not be one best method. A combination

of methods may work best. Determining the best training method is like building a bridge. The training method is the brick. Of all the different sizes and types of bricks to choose from, it is the careful selection and positioning of the appropriate bricks which determines the success or failure of the bridge. The focus of this study is ensuring a strong bridge is built by matching the skills and the training methods.

The fundamental reason the Air Force provides training to individuals to improve their performance. The following algorithm shows performance as a function of ability times motivation (Vroom, 1964:4).

$$\text{PERFORMANCE} = f(\text{ABILITY} \times \text{MOTIVATION})$$

Licker defines the ability element as the capability to perform the task and the motivation element as the will to perform the task (Licker, 1985:11). An individual must have both the capability and the willingness to perform tasks. Although motivation is important, this study focuses on the ability element.

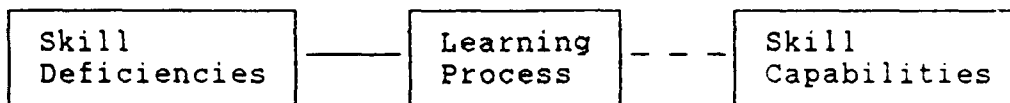
Ability is primarily obtained through either experience or learning. Experience can be a good teacher; on the other hand, it is often called the school of hard knocks. For example, obtaining the ability to operate a computer could be frustrating if it were acquired only through trial and

error. Learning is the other way to obtain abilities. Norman states that learning involves purposeful remembering and skillful performance. He defines learning as an "act of deliberate study of a specific body of knowledge, so that the material can be retrieved at will and used with skill" (Norman, 1982:3).

The learning process is a structured event in which skills are developed over time. This learning process can be described as a "black box" in which a skill deficiency is, hopefully, turned into a skill capability.

Figure 1.

The Learning Process



The desired outcome from a learning process is a new skill capability. However, the learning process does not always produce new skill capabilities. The critical consideration in designing the learning process is the selection of an appropriate training method. If the training method is not matched to the specific skill to be trained, then learning may not occur or its effectiveness may be greatly reduced. If learning does occur, it is generally not because of the design phase of the instructional system development process.

A well-known and widely used training evaluation approach was developed by Donald Kirkpatrick to measure the effectiveness of training. Table 4 shows the four levels and questions used to determine training effectiveness. The effectiveness of training is reduced when the training method is not matched to the skill. For example, teaching an individual to tie their shoes using the lecture method would be difficult and wasteful.

Table 4.
Levels of Evaluation
The Kirkpatrick Approach

| Level | Questions |
|-------------|---|
| 1. Reaction | Were the participants pleased with the program? |
| 2. Learning | What did the participants learn in the program? |
| 3. Behavior | Did the participants change their behavior based on what was learned? |
| 4. Results | Did the change in behavior positively affect the organization? |

(Phillips, 1987:36)

Another case of not matching the training method to the skill occurs when one training method is used to teach a variety of skills. Valuable resources are wasted when the training method is not matched to the skill. Matching a specific skill to the proper training method is the purpose of this study.

Problem Statement

Capt McAlear identified specific skill deficiencies for supply officers. However, identifying the skills for which supply officers need training is only the first step. Training in each skill must be designed and delivered to all supply officers. This study attempts to answer the specific question: Given the identified skills, what training methods should be used to improve the development of supply officers to be Chiefs of Supply?

Investigative Question

The following investigative question must be answered to determine the best training methods for teaching the identified human skills to supply officers: What training method(s) is/are most effective in teaching each specific human skill?

Organization of Thesis

Chapter I contains the general issue, background, focus of study, problem statement, and investigative question.

Chapter II contains a review of the literature. First, the term management development is discussed. The training methods are then reviewed.

Chapter III contains the methodology of the study. The survey method and the survey instrument are reviewed.

Chapter IV contains the analysis of the survey data.

Chapter V contains a discussion of the study results,

implications, limitation of the study, and conclusions.
Recommendations are made as to the most effective training
methods, implementation strategies, and future research.

II. Review of the Literature

Introduction

The success or failure of any organization depends to a great extent on the quality and performance of its managers. The process of improving the abilities of managers to perform is known as management development.

An organization's survival depends on its managers. To develop its managerial talent many organizations invest an immense amount of resources into management development programs. Because of this large investment, a myriad of books and articles have been written on management development. An extensive review of the current literature on management development was conducted for this study.

Because management development is a broad topic, this literature review is limited to defining the key terms of management development, reviewing some management development implementation issues for organizations, and discussing the selected training methods for developing managers.

Method of Treatment and Organization. The body of this literature review consists of three sections. The first section discusses the key terms involving management development. The second section discusses issues for implementing a management development program in an organization. The third section reviews common training

methods for developing managers: behavioral role modeling, behavior modeling, classroom lecture, computer based training, correspondence course, interactive video disk, on-the-job training, mentoring, seminar/workshop, sensitivity training, simulation exercises, video tape, and wilderness experiences.

Discussion of the Literature

Key Terms. Management development is "the whole, complex process by which individuals learn, grow, and improve their abilities to perform professional management tasks" (Wexley and Baldwin, 1986:277). This broad definition includes all areas in the management development process. Three specific terms describe the overall management development process: managerial education, management training, and on-the-job experiences. Managerial education is defined as "those activities traditionally conducted by colleges and universities that focus on developing a broad range of managerial knowledge and general conceptual abilities" (Wexley and Baldwin, 1986:278). The Management and Behavior in Organizations course in the master's degree program at the Air Force Institute of Technology is an example of managerial education.

Management training is defined as a subset of management development that is positionally and organizationally specific to individuals already in the ranks of management (Keys and Wolfe, 1988:205-206).

Management training differs from management education in that training covers those activities designed to impart specific managerial skills (e.g., time management, delegation) which would be immediately applicable in a particular organizational setting. (Wexley and Baldwin, 1986:280)

Charles Watson defines training as formal classroom learning activities, and development as all learning experiences, both on and off the job, including formal classroom training. Watson's distinction between training and development emphasizes the notion that formal classroom learning is minimally effective at best if not consistent with and supported by on-the-job experience and learning (Watson, 1979:5).

Many researchers suggest that most management development occurs on the job (Wexley and Baldwin, 1986:285). On-the-job development occurs through experience, coaching, and rotational assignments and is supported by in-house programs and university programs (Digman, 1978:71). Organizations frequently use on-the-job training because it is inexpensive. Organizations should not use on-the-job training as a substitute for carefully designed training and development programs (Wexley and Latham, 1981:107).

Management Development Issues. In a study to determine how ten well-managed organizations developed their executives, Lester Digman concluded that no two

organizations had the same approach to developing their managers.

Perhaps the conclusion should be that there is no best way to develop managers, and that the companies are using what has worked in the past and what they feel will work for them in the future. (Digman, 1978:68)

Wexley and Baldwin point out four management development issues that should be addressed by organizations. First, they agree with Digman in that there is no quick or simple answer to the question of how best to develop managers. Second, they argue organizations should develop their own specific developmental objectives and evaluate the outcomes of their development programs. Third, management development activities should not be independent of, or in conflict with, organizational objectives. Finally, they point out there is little evidence to prove that managerial development actually increases the performance of managers (Wexley and Baldwin, 1986:287-289).

Little empirical research has been conducted that shows management development programs lead to improved organizational performance (Wexley and Baldwin, 1986:288). Some programs may even be ineffective or misdirected. One of the reasons training programs may be ineffective is that the training methods were not matched to the skills. The result is that organizations waste valuable time and money. Graham and Mihal suggest a four-step process to reduce the chance

of developing a program that is ineffective or unnecessary (Graham and Mihal, 1986:57-64). This process includes:

- 1) linking programs to business plans;
- 2) validating program content;
- 3) making programs responsive to individual needs;
- 4) encouraging the transfer of training. (Graham and Mihal, 1986:57-64)

The first step in this process is to ensure the management development program is linked to the current business plan. The timing of the management development program should not conflict with any other changes in the business plan. The development plan should be relevant to the business and dependent on changes in the organization. A focus group consisting of key executives should be formed to establish guidelines for the management development program.

The second step is to validate the content of the program against the tasks managers will be required to perform. It is in this step that the selection of the training method should be matched to the training deficiencies.

The third step is to make the management development program responsive to the needs of the individual managers. This responsiveness can be accomplished by avoiding the lock-step teaching method. For example, to preclude each manager from having to complete all material, the program can be developed in two modules, a core module appropriate for all managers, and a specialized technical skill building

module available only for those managers who need it. Another technique responsive to the needs of individuals is allowing them to "test out" of certain modules in the program.

Finally, the last step is to ensure the program results in improved performance. Relapse prevention, periodic follow-ups, and training needs assessments are ways to encourage the transfer of training to the job (Graham and Mihal, 1986:57-64).

Keys and Wolfe found that one of the problems in management development was that different levels of management required different subject material.

Based on survey results, studies have found the greatest training needs for entry level managers to be communications and organizing skills, middle managers were most in need of people handling and problem solving skills, and senior executives needed training in finance, accounting, and handling pressure. (Keys and Wolfe, 1988:208)

Management Training Methods

The training methods selected for this study were chosen based on upon the literature review, their applicability to the Air Force environment, their commonality, and the authors judgment. The training methods selected appeared consistently in the literature and are frequently used to teach human skills. Although additional instructional formats were considered, eleven training methods selected. Other instructional formats considered, but not included were: experiential learning, role play,

programmed instruction, and case study or case method. These instructional formats are considered to be training strategies or techniques.

Behavioral Role Modeling. Behavioral role modeling (also called applied learning) is related to the larger family of behavior modification. Behavioral modeling is learning through observing and imitating the actions of others (Wexley and Latham, 1981:69).

Behavioral role modeling consists of learning some points or principles, observing a model that utilizes the principles (often with the aid of a film), rehearsing the procedures by role playing, and receiving social reinforcement from the trainer or other members of the group. (Goldstein, 1980:260)

Role playing illustrates dramatically the gap between knowledge and the ability to apply it (Watson, 1979:179).

Many organizations now use some form of behavior modeling. Behavior modeling is similar to behavior role modeling. The behavior modeling method is "based on several widely accepted principles of adult learning: modeling or imitation, behavioral rehearsal or practice, and reinforcement or reward" (Bard, 1987:243).

Research shows behavioral role modeling can be helpful in improving the human-relations skills of managers (Wexley and Baldwin, 1986:280). Additional research showed that a modeling based training program for first-level supervisors improved organizational productivity and efficiency (Wexley, 1984:534).

Although a few studies have indicated that behavioral role modeling can be used successfully, there is very little evidence to prove that it is effective (Wexley, 1984:537)

Classroom Lecture. The lecture is a common method of instruction. Nadler and Nadler define lecture as "a well-prepared one way presentation by an individual resource person" (Nadler and Nadler, 1977:255). The lecture method allows the instructor to cover a great deal of information, in the least amount of time. There are no questions, no discussion, and no interruptions. The learners play a passive role and the instructor does all of the talking. "It is difficult for the lecturer to present material that is equally cogent to individuals who have wide differences in ability, attitude, and interest" (Goldstein, 1986:188). John Randall states that lectures may be used to introduce a new subject or as a summary at the end (Randall, 1983:127). Goldstein points out that "with the increasing technology and size of organizations, many are finding that the live lecture method is inadequate to handle the number of people who need to be trained" (Goldstein, 1986:209).

Computer Based Training. Computer based training has had recent rapid growth mainly because of the increase in the use of personal computers. Most researchers agree that computer based training can reduce training time (Goldstein, 1980:261; Wexley, 1984:535). Computer based training also offers great promise for more flexible learning environments (Keys and Wolfe, 1988:213). In fact, one of its major

claims is that it individualizes the learning experience for each learner's pace and style (Wexley and Baldwin, 1986:282).

Computer based training may have some disadvantages. It has been charged, but not supported, that the loss of personal interaction with the computer may hinder development of human interactive skills (Keys and Wolfe, 1988:213). If this is true, computer based training may not be the most effective training method for a skill like performance communication.

A more powerful use of computer based training may be to combine it with expert systems. In theory, this combination would be a dynamic tool in teaching judgement and in capturing of hard to acquire knowledge. However, "comparative studies of the effectiveness of training using expert systems are not available in the literature" (Keys and Wolfe, 1988:213).

Correspondence Course. A correspondence course is a paper-based instructional method in which materials are sent to a learners at their work site. The material is completed by the learner without an instructor and returned to the sender for grading and feedback.

Interactive Video Disk. Interactive Video Disk (IVD) uses an optical laser video disc with a microcomputer. Currier states IVD combines the "emotional power of

television and the computer" (Currier, 1983:51). Porter provides a good description of an IVD system.

IVD hardware systems, typically contain three components: a computer, a monitor, and a video disc player. Software is composed of one or more computer discs and a video disc. The computer allows immediate access to any portion of the material contained on the video disc. Video discs can store still frames and audio recordings as well as video material. (Porter, 1990:554)

On-the-Job Experiences. On-the-Job training (OJT) is one of the most frequently used training methods, but it "is also one of the most poorly implemented" (Sullivan, 1985:118). OJT involves "activities conducted at the work site to help the learner develop job-related competencies while engaging in productive work at the same time" (Bard, 1987:277). OJT should involve a carefully designed and implemented formal program. However, OJT is frequently an informal procedure in which the learner watches a more experienced employee. Goldstein states "that there is no reason why a carefully designed on-the-job instructional system should not be as successful as any other approach" (Goldstein, 1986:186).

Mentorship. Mentorship is an important training and development tool for organizations (Hunt and Michael, 1983:475). Organizations gain a better educated, better paid, less mobile, and more satisfied manager through the mentoring process (Hunt and Michael, 1983:478). Mentorship is generally used to describe "informal, intense, personal relationships where senior persons have important career

molding influence on younger people in the early phases of their adult professional careers" (McCauley, 1986:9). Mentorship is considered a more intense relationship than coaching. Mentoring relationships not only help proteges learn technical knowledge, but the relationships also aid them in learning the organizational ropes, developing a sense of competence and effectiveness, and learning how to behave at successive management levels (Hunt and Michael, 1983:478). In successful mentorship programs, the mentor and the protege are carefully matched to ensure they are compatible.

Research suggests that protege learning increases when both parties exhibit high levels of trust, informality, openness with information, interaction frequency, and people orientation tempered with professional orientation. (Wexley and Baldwin, 1986:286)

Unfortunately, mentoring programs may not always work well for organizations.

Despite the perceived importance of mentoring for management development, formalized mentoring programs have shown mixed results, with programs sometimes resulting in less than expected levels of learning and/or trainee satisfaction (Wexley and Baldwin, 1986:286)

Other management training methods may be better suited to the specific needs of the organization.

Seminar/Workshop. A seminar is a "discussion involving several individuals, all of whom have something to offer. However, there is one seminar leader who also serves as a resource" (Nadler and Nadler, 1977:256). Webster's

dictionary defines workshop as "a usually brief intensive educational program for a relatively small group of people that emphasizes participation in problem solving." Because these terms are similar, many individuals use these terms interchangeably.

Some advantages of (seminar/workshop) classroom learning identified by Linda Standke are: (1) You will learn from an expert; (2) You will work with your peers; (3) You'll be in a learning environment; (4) You will have time to practice and make mistakes; (5) You will have an opportunity to watch the process as well as learn content; (6) You will get a certificate of completion (Bard, 1987:53).

Sensitivity Training. Sensitivity training involves becoming more aware of your actions affect on others in a social context. Peter Vaill describes sensitivity training as:

The collection of methods for improving the individual's sensitivity to himself and others. Although a large number of variations exist, the common ingredients seem to be: (1) the guidance of a trained person or persons; (2) intense interpersonal experience by the trainee; (3) a relatively protected environment, free from ordinary pressures and distractions. (Vaill, 1973:245)

Simulation Exercises. A simulation is a replication of a real life event used to train a task or skill that is required on the job. "In their simplest forms, simulations include in-basket exercises, case studies, role plays, and

more extensive group learning designs" (Bard, 1987:284). Goldstein points out some of the reasons for using simulations are controlled reproducibility, safety considerations, utilization of learner considerations, and cost (Goldstein, 1986:214-215).

Video Tape. Video tape involves the delivery of instructional materials through the use of a recording of audio and video images. DuBois and Mayo point out that "telling is not teaching" and that video does not usually hold the attention of learners as well as a live lecture. "Video should capitalize on its strong points: motion; color; drama; and incorporation of graphics, still photography, and segments from motion-picture film" (Mayo, 1987:128).

Wilderness Experiences. A wilderness experience is a outdoor lab which requires the learner to participate in a set of physical challenges. The experience usually involves both individual and group challenges. "Taking managers out of the corporate comfort zone into the outdoors to confront physical challenges is the theory behind wilderness labs" (Long, 1984:58). Reola McLeod, director of the Corporate Development Program, places the value of wilderness lab in this content:

What this program has to offer the business community is a union between the intellectual ideas and theories presented in traditional management development programs, and the impact that it has when you put your physical and

emotional selves behind the theories. (Long, 1984:60)

The military has used the wilderness experience training method for many years. In the Air Force, a wilderness exercise called "Project X" is currently used by the United States Air Force Academy, the Reserve Officers Training Corp, the Officer Training School, and Squadron Officer School. Project X consists of a set of physical challenges involving a small group students designed to force interaction between the members. The leadership and interpersonal skills displayed during the exercise are reviewed after the exercise is complete.

Conclusion

Management development is important to the success of organizations, and in fact, an organization's very survival may depend on how well its managers are developed. The term "management development" is broad in scope and includes managerial education, management training, and on-the-job experiences.

Although there is no best way to develop managers, step-by-step processes have been developed that will help organizations establish effective and necessary management development programs. Management development programs should be linked to the business plan and the content of the program should be validated. The program must also be

responsive to the needs of individuals, and encourage the transfer of learning.

Behavioral role modeling, classroom lecture, computer based training, correspondence course, interactive video disk, on-the-job training, mentoring, seminar/workshop, sensitivity training, simulation exercises, video tape, and wilderness experiences are management training methods that organizations can use to develop managers. Although these training methods may have some disadvantages or may not be fully proven, each method can help organizations develop better managers.

The required human skills have been previously identified and now this literature review has provided eleven possible training methods. Any of the above mentioned training methods could deliver the human skills training required by supply officers. What training methods is the most effective in teaching each specific human skill? The next chapter discusses the methodology used to answer this question.

III. Methodology

Overview

This chapter describes the methodology used in this study. It provides information on the justification of the survey approach, the survey instrument, the sample and population, the data collection plan and statistical tests for this study.

Justification of Survey Approach

The survey approach was selected to obtain primary data to answer the investigative questions. The mail survey was selected because of the large size and geographic spread of the population. The other approaches to obtain primary data (observation, experimentation, personal interviews, telephone interviews, and personally administered survey) would have taken additional time and expense. Another method to collect data would be to select effective long-term companies and observe the training method(s) used to teach specific skills. Although this could be an effective data gathering technique, it obviously would be more expensive and take much longer than a mail survey.

Emory states that an advantage of using mail surveys is that you can contact respondents who might otherwise be inaccessible (Emory, 1985:172). The mail survey also allows the "subjects to have more time to think and respond when they want to" (Wallzer and Wiener, 1978:290).

In a mail survey, the respondent can take more time to collect facts, talk with others, or consider replies at length than is possible with either the telephone or personal interview. (Emory, 1985:172)

Emory notes that a major weakness of surveying is non-response (Emory, 1985:172). To improve the response rate optical scanner forms were not used. All responses were written directly on the survey itself.

Instrument

The survey instrument was developed to answer the investigative question: What training method is most effective in teaching each human skill? In addition, the survey collects information on the respondent's familiarity with each of the training methods and background. Two important decisions were made prior to the survey development. The first decision was to determine which skills to include in the survey. The second decision was to determine if the respondents would provide the training methods or if a pre-determined list should be included.

Captain McAlear recommended that a total of twenty one skills be trained (McAlear, 1989:103). Table 5 contains a complete list of the skills recommended to be trained.

Table 5.

Complete List of Skills Requiring Training

| |
|--------------------------------------|
| Acting Consistently |
| Trust |
| Listening |
| Providing Praise and Recognition |
| Emphasizing Performance |
| Enthusiasm |
| Clarifying Work Roles |
| Administering Discipline |
| Managing Stress |
| Foresight |
| Inspection |
| Communicating a Shared Understanding |
| Truthfulness |
| Judgement |
| Solving Problems |
| Inspiring Subordinates |
| Delegation |
| Facilitating Teamwork |
| Performance Communication |
| Planning and Organizing |
| Setting Goals |

Although training may be required for all of these skills, the number was too large for this study. The list needed to be reduced to only the most important skills. Because Captain McAlear surveyed two populations, a ranking of the skills requiring training was available for both supply officers and Chiefs of Supply. Given both rankings, the Chief of Supply ranking was considered the most important. The purpose of this study is to prepare supply officers to become Chiefs of Supply. The training requirements identified by supply officers are important; however, these may not be the skills required by a Chief of Supply. The

training requirements identified by the Chiefs of Supply are the skills required for target position. This is not to imply that training for supply officers is not important, but for this study the training of interest is for the Chief of Supply position.

The top ten (because of a tie, eleven skills are included) skills requiring training as rated by the Chiefs of Supply were selected for this study. These skills were also in the top 25 skills requiring training for supply officers. Table 6 lists the top eleven skills with the training need ranking for the Chief of Supply (COS) and the supply officer (SO) groups.

Table 6.

Top Eleven Skills Requiring Training

| SKILL | COS | SO |
|--------------------------------------|-----|----|
| Inspiring Subordinates | 1 | 3 |
| Providing Praise and Recognition | 2 | 12 |
| Acting Consistently | 3 | 1 |
| Communicating a Shared Understanding | 4 | 25 |
| Foresight | 5 | 20 |
| Emphasizing Performance | 6 | 6 |
| Performance Communication | 7 | 8 |
| Enthusiasm | 8 | 21 |
| Introspection | 9 | 15 |
| Planning and Organizing | 10 | 10 |
| Setting Goals | 10 | 17 |

Eleven training methods were pre-selected to be included in the survey. This selection was based upon the review of the literature. The author decided not to ask the respondents to determine the training methods. If the training methods determination had been left up to the respondents a wide range (almost unlimited) of methods could have been written in, many of which might not have been appropriate in an Air Force environment. Each method would also need a common definition. It would be impractical for each respondent to provide a definition.

The eleven training methods selected are common methods in use and could be implemented in the Air Force. A weakness of pre-selecting the training methods is that the range of information obtained is constrained. To offset this limiting effect an opened-ended question was included in the survey. For example, if there was a training method the respondent believed was not included, it could be noted in the response to the open-ended question. The structure of the survey was also enhanced by using the pre-selected training methods. The result is a shorter survey which, it was hoped, would improve the quality of the responses.

The survey consists of four sections totaling fourteen pages (Appendix A). The first page is the cover letter. The next page provides general instructions and definitions for each of the eleven training methods.

Section 1. The first section provides the respondent with the human skill and a definition of that skill. The eleven training methods are listed below each skill. The respondent is asked to use a six point Likert scale to rate how effective each training method is in teaching the skill. The Likert scale contains the following categories:

- (1) Extremely Ineffective
- (2) Very Ineffective
- (3) Ineffective
- (4) Effective
- (5) Very Effective
- (6) Extremely Effective

This evenly numbered scale does not provide a mid-point. The respondents are forced to make a choice between effective and ineffective. The purpose is to acquire as much information as possible as to the effectiveness or ineffectiveness of the methods. If there were a mid-point no information would be gained when the respondent selected it.

Section 2. The second section asks the respondent to rank the top and bottom three training methods for the same eleven skills. This section provides a differentiation between the training methods. For example, a respondent in section one may choose three training methods as extremely effective. The second section provides a differentiation between the methods by asking the respondent to rank the methods. The respondents could have been asked to rank all of the training methods, but the middle grouping does not provide as much information as ranking the top and bottom

methods. It is also easier to differentiate between the top and bottom of a ranking than it is to differentiate among the middle items. Including all of the rankings in the survey would have required fifty-five additional questions. The survey is shorter and easier to complete without including the ranking of all the methods.

Section 3. This section contains nine questions relating to the background information of the respondent.

Section 4. This section asks the respondent to write in any other training techniques which is useful in teaching human skills. This open-ended question allows the respondent to provide any additional information about training methods that was not covered in the previous sections. The next question ask if the respondent is willing to be interviewed by phone after the data has been compiled. The last question asks the respondents if they would like to receive a summary of the results.

Sample/Population

The population of interest for this survey is experienced trainers or educators who are involved with the Department of Defense. Within the Department of Defense there is no known organization from which this information can be obtained. The total size of the population is unknown. However, it is the author's opinion that the number of trainers or educators involved with the Department of Defense is extremely large. The task of obtaining the

names and addresses of individuals who fit in this category could have been extremely difficult using military sources. For example, in the Air Force there are many different organizations with individuals in the target population (Air Training Command, Air University and other major commands). Both military and civilians in various positions fit into the population.

The sample was selected from the membership of the American Society for Training and Development (ASTD), and the National Society for Performance and Instruction (NSPI). The ASTD membership is divided into numerous industry groups. The Military Trainers, Air Force, Army, and Navy industry groups were selected for this survey. A total of 319 mailing labels was used from the ASTD. The NSPI is also divided into groups. The military group was selected for this survey. A total of 90 mailing labels was used from the NSPI. Additional mailing labels were provided from professional contacts made by the author.

Data Collection Plan

Each survey package contained one cover letter, one survey, and a pre-paid pre-addressed return envelope. No optical scan forms were provided. The outside mailing envelopes were addressed using the mailing labels from ASTD and NSPI.

Once the survey was returned, it was checked to ensure it was correctly and completely filled out. Only surveys

that were correctly and completely filled out were used. The data from each survey was input directly into computer file using a keyboard.

Statistical Tests

The statistical analysis was conducted on the AFIT computer using the SAS System for Elementary Statistical Analysis software. First a SAS data set was created and checked for errors using the PROC UNIVARIATE and FREQ procedures. The PROC UNIVARIATE procedure provides an extensive summary of descriptive statistics and the FREQ option produces a frequency table. The PROC MEANS procedure provided the means of data. The CORR procedure computed correlation coefficients to measure the strength of the relationship between section 1 and section 2 of the survey. The PROC ANOVA procedure produced the analysis of variance. Multiple comparisons of the means were produced with the t option in the MEANS statement. This option produced pairwise t tests, equivalent to Fisher's least-significant-difference test.

IV. Analysis

This chapter presents the results of the analysis of the survey data. First, the survey responses are summarized followed by a demographic profile of the typical respondent. The remainder of the chapter is devoted to discussing the results of the analysis of the data.

Survey Response Summary

One hundred and sixty five surveys were returned from the original mailing of 420 surveys for an overall return rate of 39 percent. Thirteen unusable surveys were returned that were either erroneously marked or incomplete. One hundred and fifty two useable surveys were returned for a useable return rate of 36 percent. Emory states that a return rate of 30 percent is satisfactory for a mail survey without a follow-up (Emory, 1985:172).

The useable return rate of 36 percent is considered to be very good, given the length and difficulty of the survey. The survey consisted of a total of 35 questions, requiring a minimum of 207 separate answers. The survey was difficult because it required the respondents to think about a specific skill and interpret the effectiveness of eleven different training methods. This is an extremely time consuming survey, given Emory's rule of thumb that the respondent should be able to answer all the questions in no more than 10 minutes (Emory, 1985:172). Verbal and written

comments made to the author indicate some respondents spent over an hour completing the survey.

Demographic Profile

The average survey respondent is a civilian who is not employed by the federal government. Although the average respondent is a civilian not employed by the federal government (41.4 percent), the number of surveys returned by government employees was actually higher (49.3 percent). The federal government employee return rate is higher, possibly because the survey was targeted to employees involved in the Department of Defense. The federal government employees are divided into two groups: the civilian (federal government employee) group was 32.2 percent of the total, and the military group was 17.1 percent. The typical respondent (46.7 percent) currently works in an organization that is not affiliated with the Department of Defense. However, the total respondents in the military services and another agencies of the Department of Defense is 53.3 percent. Almost all of the respondents not affiliated with the Department of Defense were contractors for the Department of Defense.

The average respondent has 14 years and 1 month experience as a trainer and has completed a master's degree (26.3 percent) or some work beyond a master's degree (26.3 percent). The typical respondent considers his or her current job to be extensively involved in training (91.4

percent) and spends 100 percent of the work week involved in training or education (42.1 percent). The typical respondent has moderately (28.3 percent) to broadly (32.9 percent) developed training skills attained through professional development courses or workshops. The typical respondent is also a member of the American Society of Training and Development (ASTD) (76.3 percent) or another similar professional organization. Only 2.6 percent of the respondents were not a member of any management or training organization.

Investigative Question

The survey was designed to answer the investigative question: What training method(s) is/are most effective in teaching each specific human skill? The survey was designed with two sections addressing this question. The purpose was to provide an additional check on the data and increase the reliability of the results. The survey consisted of four sections. Section 1 asked how familiar the respondent was with each training method and then had the respondent use a six point Likert scale to rate the effectiveness of each training method. Section 2 asked the respondent to rank order the top and bottom three training methods. Section 3 contained demographic questions. Section 4 contained a place for the respondents add any additional comments and include their name and address.

Section 1. Section 1 of the survey first asked the respondents if they were familiar with each of the eleven training methods. They were then asked to rate each method based on its effectiveness using a six point Likert scale.

Familiarity. Familiarity with the training method increases the likelihood that the respondent is able to make a valid determination of the effectiveness of that specific training method.

Table 7 presents the training methods in rank order starting with the highest familiarity percentage. It is

Table 7.

Training Method Familiarity

Number and Percent Indicating Familiarity

| Training Method | # | % (152) | % (133) |
|-------------------------|-----|---------|---------|
| Classroom Lecture | 132 | 86.8 | 99.2 |
| Seminar/Workshop | 127 | 83.6 | 95.5 |
| On-the-Job Experiences | 126 | 82.9 | 94.7 |
| Video Tape | 122 | 80.3 | 91.7 |
| Computer Based Training | 117 | 77.0 | 88.0 |
| Correspondence Course | 113 | 74.3 | 85.0 |
| Mentoring | 113 | 74.3 | 85.0 |
| Simulation Exercise | 113 | 74.3 | 85.0 |
| Behavior Modeling | 102 | 67.1 | 76.7 |
| Interactive Video Disk | 87 | 57.2 | 65.4 |
| Wilderness Experiences | 48 | 31.6 | 36.1 |

likely that the number of respondents familiar with the training methods is low, because 21 surveys were returned in which the respondent did not indicate familiarity with any of the methods. Two respondents were contacted to clarify the non-response to the familiarity questions. Both respondents indicated that they had missed the question and then provided appropriate answers. Additional respondents were not contacted due to the lack of time or because they did not include their name, address or telephone number.

The position of the familiarity question on the survey may have led respondents to believe it was part of the instructions. A total of 133 respondents indicated they were familiar with at least one of the training methods. If 133 is used as the divisor instead of 152, the classroom lecture method would have a familiarity rating of 99 percent. Familiarity with the wilderness experience training method would increase from 31.6 percent to 36 percent.

Training Method Effectiveness. The mean was computed for each training method. Overall the highest mean score was 5.22 for the mentoring training method. On the Likert scale, a rating of 5 indicated "effective" and a rating of 6 indicated "extremely effective". The lowest mean was 1.97 for the correspondence course training method. On the Likert scale, a rating of 2 indicated "very ineffective" and a rating of 1 indicated "extremely

ineffective". There were eleven training methods matched to eleven human skills for an overall total of 121 specific groupings. For these groups, seventy two of the means were above the midpoint (3.50) of the Likert scale and forty nine of the means were below the midpoint.

Table 8.

Results from Section 1

Skills Grouped by Top Three Training Methods

| |
|---|
| <u>Acting Consistently</u> <u>Emphasizing Performance</u> <u>Inspiring Subordinates</u> <u>Performance Communication</u> <u>Providing Praise and Recognition</u> Mentoring Behavior Modeling Simulation Exercise |
| <u>Communicating a Shared Understanding</u> Simulation Exercise Mentoring Behavior Modeling |
| <u>Enthusiasm</u> Mentoring Behavior Modeling On-the-Job Training |
| <u>Foresight</u> <u>Introspection</u> <u>Setting Goals</u> Mentoring Simulation Exercise On-the-Job Training |
| <u>Planning and Organizing</u> Simulation Exercise Mentoring On-the-Job Training |

The top four highest means were for the mentoring training method. The nine lowest means were for the correspondence course training method. As a group, this shows the most effective and ineffective training methods; however, it is much more important to look at each skill and the training method rated most effective for that skill. Table 8 shows the top three most effective training methods for each skill. The skills with the same top three rankings are grouped together. The skills are listed first followed by the top three training methods.

Table 9 summarizes the effectiveness results for section 1 of the survey. The top three training methods are presented by skill with each mean and standard deviation. The means with an asterisk are not significantly different within that skill. The analysis of variance results is Appendix I.

Table 9. Top Three Training Methods by Skill
for Section 1 (Mean & Standard Deviation)

Acting Consistently

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Mentoring | 5.14* | .84 |
| Behavior Modeling | 5.13* | .96 |
| Simulation Exercise | 4.92 | .88 |

Communicating a Shared Understanding

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Simulation Exercise | 5.00* | .96 |
| Mentoring | 4.94* | .91 |
| Behavior Modeling | 4.78* | 1.12 |

Emphasizing Performance

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Mentoring | 5.17* | .90 |
| Behavior Modeling | 5.06* | 1.02 |
| Simulation Exercise | 4.88 | .98 |

Enthusiasm

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Mentoring | 5.09* | .95 |
| Behavior Modeling | 5.05* | 1.12 |
| On-the-Job Training | 4.76 | 1.15 |

Means with an asterisk are not significantly different.

Table 9. Top Three Training Methods by Skill
for Section 1 (Mean & Standard Deviation) (Cont.)

Foresight

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Mentoring | 5.06 | .90 |
| Simulation Exercise | 4.79* | 1.02 |
| On-the-Job Training | 4.71* | 1.12 |

Inspiring Subordinates

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Mentoring | 5.21* | .78 |
| Behavior Modeling | 5.13* | 1.05 |
| Simulation Exercise | 4.92 | .93 |

Introspection

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Mentoring | 5.03 | 1.01 |
| Simulation Exercise | 4.70* | .95 |
| On-the-Job Training | 4.67* | 1.16 |

Performance Communication

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Mentoring | 5.02* | 1.00 |
| Behavior Modeling | 5.00* | 1.00 |
| Simulation Exercise | 4.92* | .96 |

Means with an asterisk are not significantly different.

Table 9. Top Three Training Methods by Skill
for Section 1 (Mean & Standard Deviation) (Cont.)

Planning and Organizing

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Simulation Exercise | 5.03* | 1.07 |
| Mentoring | 4.96* | 1.03 |
| On-the-Job Training | 4.76 | 1.09 |

Providing Praise and Recognition

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Mentoring | 5.22* | .80 |
| Behavior Modeling | 5.12* | .97 |
| Simulation Exercise | 5.00 | .91 |

Setting Goals

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Mentoring | 5.13* | .88 |
| Simulation Exercise | 4.98* | .99 |
| On-the-Job Training | 4.80 | 1.04 |

Means with an asterisk are not significantly different.

Section 2. The questions in this section asked the respondents to rank the top and bottom three training methods in terms of their effectiveness. A mean was computed by assigning points to the ranked training methods. If the training method were the respondent's first choice, it received three points. A second choice training method received two points and a third choice training method received one point. The last choice training method

received a negative three points. The tenth and ninth choices received negative two points and negative one point, respectively. The training methods that were not ranked were assigned zero points. The total points were then divided by the total number of respondents. The results for section 2 were similar to the results from section 1.

Table 10.

Results from Section 2

Skills Grouped by Top Three Training Methods

| |
|---|
| <u>Emphasizing Performance</u> <u>Enthusiasm</u> <u>Inspiring Subordinates</u> <u>Performance Communication</u> Mentoring Behavior Modeling Simulation Exercise |
| <u>Communicating a Shared Understanding</u> Simulation Exercise Mentoring Behavior Modeling |
| <u>Acting Consistently</u> <u>Providing Praise and Recognition</u> Behavior Modeling Mentoring Simulation Exercise |
| <u>Foresight</u> <u>Introspection</u> Mentoring Simulation Exercise On-the-Job Training |
| <u>Planning and Organizing</u> <u>Setting Goals</u> Simulation Exercise Mentoring On-the-Job Training |

Table 11. Top Three Training Methods by Skill
for Section 2 (Mean & Standard Deviation)

Acting Consistently

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Behavior Modeling | 1.57* | 1.27 |
| Mentoring | 1.50* | 1.22 |
| Simulation Exercise | 1.15 | 1.16 |

Communicating a Shared Understanding

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Simulation Exercise | 1.40* | 1.14 |
| Mentoring | 1.23* | 1.28 |
| Behavior Modeling | 1.03 | 1.27 |

Emphasizing Performance

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Mentoring | 1.42* | 1.24 |
| Behavior Modeling | 1.24* | 1.36 |
| Simulation Exercise | 1.13 | 1.22 |

Enthusiasm

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Mentoring | 1.48* | 1.22 |
| Behavior Modeling | 1.42* | 1.33 |
| Simulation Exercise | .90 | 1.05 |

Means with an asterisk are not significantly different.

Table 11. Top Three Training Methods by Skill
for Section 2 (Mean & Standard Deviation) (Cont.)

Foresight

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Mentoring | 1.60 | 1.29 |
| Simulation Exercise | 1.17* | 1.15 |
| On-the-Job Training | .93* | 1.36 |

Inspiring Subordinates

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Mentoring | 1.45* | 1.29 |
| Behavior Modeling | 1.33* | 1.33 |
| Simulation Exercise | .95 | 1.12 |

Introspection

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|------|-----------------------|
| Mentoring | 1.48 | 1.36 |
| Simulation Exercise | 1.09 | 1.18 |
| On-the-Job Training | .75 | 1.28 |

Performance Communication

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Mentoring | 1.34* | 1.29 |
| Behavior Modeling | 1.28* | 1.39 |
| Simulation Exercise | 1.24* | 1.27 |

Means with an asterisk are not significantly different.

Table 11. Top Three Training Methods by Skill
for Section 2 (Mean & Standard Deviation) (Cont.)

Planning and Organizing

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Simulation Exercise | 1.36 | 1.24 |
| Mentoring | 1.01* | 1.43 |
| On-the-Job Training | .80* | 1.36 |

Providing Praise and Recognition

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Behavior Modeling | 1.44* | 1.33 |
| Mentoring | 1.36* | 1.27 |
| Simulation Exercise | 1.23* | 1.11 |

Setting Goals

| TRAINING METHOD | MEAN | STANDARD DEVIATION |
|---------------------|-------|-----------------------|
| Simulation Exercise | 1.30* | 1.33 |
| Mentoring | 1.23* | 1.28 |
| On-the-Job Training | .82 | 1.43 |

Means with an asterisk are not significantly different.

Comparison of Section 1 and 2. Section 1 asked the respondents how effective each method was in teaching each skill. Section 2 asked the respondent to rank order the top and bottom three methods. Although the questions asked were similar, the focus of the questions was different. In the first section the focus is on the effectiveness of a specific method. In the second section the focus is on the order or ranking of one method compared to another method.

Table 12.

Comparison of Sections 1 and 2

Rank of Training Method Mean by Skill

= Survey Section Number
 AC = Acting Consistently
 CS = Commun. a Shared Understanding
 EP = Emphasizing Performance
 EN = Enthusiasm
 FO = Foresight
 IS = Inspiring Subordinates
 IN = Introspection
 PC = Performance Communication
 PO = Planning & Organizing
 PR = Providing Praise & Recognition
 SG = Setting Goals

| Training Methods | # | AC | CS | EP | EN | FO | IS | IN | PC | PO | PR | SG |
|------------------------|---|----|----|----|----|----|----|----|----|----|----|----|
| Behavior Modeling | 1 | 2 | 3 | 2 | 2 | 4 | 2 | 4 | 2 | 4 | 2 | 4 |
| | 2 | 1 | 3 | 2 | 2 | 4 | 2 | 4 | 2 | 5 | 1 | 4 |
| Classroom Lecture | 1 | 9 | 8 | 9 | 8 | 8 | 9 | 9 | 9 | 8 | 9 | 8 |
| | 2 | 9 | 8 | 8 | 9 | 8 | 9 | 8 | 8 | 8 | 9 | 8 |
| Computer Based Tng | 1 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 7 | 10 | 9 |
| | 2 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 9 | 10 | 9 |
| Correspondence Course | 1 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| | 2 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Interactive Video Disk | 1 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 |
| | 2 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 6 | 7 |
| On-the-Job Training | 1 | 4 | 4 | 4 | 3 | 3 | 4 | 3 | 4 | 3 | 4 | 3 |
| | 2 | 4 | 4 | 4 | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 3 |
| Mentoring | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |
| | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 |
| Simulation Exercise | 1 | 3 | 1 | 3 | 4 | 2 | 3 | 2 | 3 | 1 | 3 | 2 |
| | 2 | 3 | 1 | 3 | 3 | 2 | 3 | 2 | 3 | 1 | 3 | 1 |
| Seminar/Workshop | 1 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 2 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 |
| Video Tape | 1 | 8 | 9 | 8 | 9 | 9 | 8 | 8 | 8 | 10 | 8 | 10 |
| | 2 | 7 | 9 | 9 | 8 | 9 | 8 | 9 | 9 | 10 | 8 | 10 |
| Wilderness Experiences | 1 | 7 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 9 | 6 | 6 |
| | 2 | 8 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 6 |

Table 12 shows a comparison of the results from section 1 and section 2 of the survey. The correlation analysis

between the results of section 1 and section 2 is
Appendix K.

Conclusion

This chapter presented the data collected by the survey instrument. The survey collected data on the respondents' background, familiarity with the training methods, and perceptions of the effectiveness of each method. The next chapter discusses the conclusions and recommendations based upon the data obtained from the survey.

V. Conclusions and Recommendations

This chapter presents the conclusions and recommendations of this study based upon the analysis of the data presented in chapter IV. First, the respondent's familiarity with the training methods is discussed. Then the most effective and ineffective training methods are reviewed. Each human skill is discussed and some practical implications and recommendations are presented.

Familiarity

Familiarity with each of the training methods is important to support the effectiveness ratings. The more familiar an individual is with a training method the more likely the individual has experience with that specific training method.

According to the higher familiarity percentages, only two of the training methods fall below 75 percent. Interactive video disk has a familiarity of 65 percent and wilderness experiences has a familiarity of 36 percent. Familiarity with interactive video disk may be low because it is a relatively new instructional technology. Familiarity with wilderness experiences may be low because this training method receives limited use in a civilian environment.

Most Effective Training Methods

The mentoring training method was rated as the most effective method for teaching six of the eleven human skills in both sections of the survey. The mentoring training method is learning from someone who excels in a particular subject or skill and takes an interest in guiding and instructing a less experienced, usually younger person. These six skills are: emphasizing performance, enthusiasm, foresight, inspiring subordinates, and introspection. The simulation exercise training method was rated as the most effective method in both sections of the survey for teaching the communicating a shared understanding skill and the planning and organizing skill. The simulation exercise training method is a representation of a real-life situation, usually a situation requiring appropriate actions and reactions or a situation requiring the demonstration of technical expertise. Eighty five percent of the respondents were familiar with the mentoring and simulation exercise training method.

The mentoring training method and behavior modeling training method tied as the most effective methods for teaching the acting consistently skill and the providing praise and recognition skill. The behavior modeling training method is a teaching-learning method based on several widely accepted principles of adult learning: modeling or imitation, behavioral rehearsal or practice, and

reinforcement or reward. The mentoring training method and the simulation exercise training method tied as the most effective method for teaching the setting goals skill. The training methods were tied because they were ranked as most effective in one section of the survey and as second most effective in the other section.

Most Ineffective Training Methods

Clearly, the most ineffective training method was correspondence course. The correspondence course training method was ranked last for all training methods in both sections of the survey. A correspondence course does not allow for inter-activity or one-on-one instruction. Therefore it is logical that it would not be a good training method for teaching human skills.

The second most ineffective training method was computer based training. Computer based training ranked second to last on all but the setting goals and planning and organizing skills. The survey respondents may have perceived computer based training as an ineffective training method because human interface is reduced through the use of the computer. Both the computer based training method and correspondence course training method lack the human element that may be required to teach human skills.

Most Effective Training Method for Each Human Skill

Each of the eleven human skills is reviewed below. This review includes the definition of the skill and its most effective training method.

Acting Consistently. The acting consistently skill is defined in the survey as the extent to which subordinates feel a manager is consistent in response, actions, and policies. The most effective training method for teaching the acting consistently skill is either the behavior modeling method or the mentoring method. There is no significant difference between these two training methods. Teaching managers to be consistent should be taught by allowing the manager to practice the behavior and providing reinforcement for correct behavior. The behavior modeling method and mentoring method allow the manager to practice acting consistently and allow for providing feedback to the manager. The next most effective method for teaching this skill is the simulation exercise method.

Communicating a Shared Understanding. The communicating a shared understanding skill is defined in the survey as the extent to which a manager ensures each member of the work unit shares the same concept of project taskings, goals, and performance expectations. The most effective training method for teaching the communicating a shared understanding skill is either the simulation exercise method or the mentoring method. The simulation exercise

training method would represent a real-life situation in which the learner can demonstrate communicating. The next most effective method for teaching this skill is the behavior modeling method.

Emphasizing Performance. The emphasizing performance skill is defined in the survey as the extent to which a manager can emphasize the importance of subordinates' performance and encourage subordinates to make a maximum effort. The most effective training method for teaching the emphasizing performance skill is either the mentoring method or the behavior modeling method. The mentoring training method allows the manager to learn from someone who excels in emphasizing performance. The next most effective method for teaching this skill is the simulation exercise method.

Enthusiasm. The enthusiasm skill is defined in the survey as the extent to which a manager can demonstrate interest or excitement about their job. The most effective training method for teaching the enthusiasm skill is either the mentoring method or the behavior modeling method. There is no significant difference between these two training methods.

Foresight. The foresight skill is defined in the survey as the extent to which a manager can look to new opportunities for the work unit to exploit, propose new activities to undertake, and offer innovative ideas for strengthening the work unit. The most effective training

method for teaching the foresight skill is the mentoring method. The next most effective method for teaching this skill is the simulation exercise method or the on-the-job-training method.

Inspiring Subordinates. The inspiring subordinates skill is defined in the survey as the extent to which a manager can stimulate enthusiasm among subordinates for the work of a group, and may say things to build their confidence in the group's ability to successfully attain its objectives. The most effective training method for the teaching the inspiring subordinates skill is either the mentoring method or the behavior modeling method. There is no significant difference between these two training methods.

Introspection. The introspection skill is defined in the survey as the extent to which a manager understands his job, is sensitive to his impact on the organization, and is aware of his own strengths and weaknesses. The most effective training method for teaching the introspection skill is the mentoring method. The next most effective method for teaching this skill is the simulation exercise method.

Performance Communication. The performance communication skill is defined in the survey as the extent to which a manager communicates information about the quality of a subordinate's work or how well they are doing.

The most effective training method for teaching the performance communication skill is either the mentoring method, the behavior modeling method, or the simulation exercise method. There is no significant difference between these three training methods.

Planning and Organizing. The planning and organizing skill is defined in the survey as the extent to which a manager plans in advance how to improve efficiency and productivity, schedule work, coordinate work unit activities, accomplish task objectives and strategies, and cope with potential problems. The most effective training method for teaching the planning and organizing skill is the simulation exercise method. The next most effective method for teaching this skill is the mentoring method or the on-the-job-training method. There is no significant difference between these two training methods.

Providing Praise and Recognition. The providing praise and recognition skill is defined in the survey as the extent to which a manager provides appropriate praise and recognition to subordinates with effective performance, and shows appreciation for special efforts and contributions made by subordinates. The most effective training method for teaching the providing praise and recognition skill is either the behavior modeling method or the mentoring method. There is no significant difference between these two

training methods. The next most effective method for teaching this skill is the simulation exercise method.

Setting Goals. The setting goals skill is defined in the survey as the extent to which a manager, either alone or jointly with a subordinate, sets specific, challenging, but realistic, performances goals for each important aspect of the subordinate's job. The most effective training method for teaching the setting goals skill is either the simulation exercise method or the mentoring method. There is no significant difference between these two training methods. The next most effective method for teaching this skill is the on-the-job-training method.

Practical Implications

The high effectiveness rating of the mentoring training methods suggests that training is not only required for supply officers (protoges) but, also for the Chiefs of Supply (mentors). Using the mentoring training method in the Air Force may present more challenges than its implementation in a more stable civilian company. In the Air Force, supply officers rarely have one boss for more than a year. The Chief of Supply or the supply officer is either moved to a different job or receives an assignment. The mentoring training method may be demanding on the Chief of Supply's time. The Chief of Supply must first have the time to learn to be a mentor and second must have time to be that mentor. Chiefs of Supply have a demanding job and some

may believe it is unrealistic to ask them to be mentors. On the other hand, providing Chiefs of Supply with the list of needed skills and the knowledge that for many skills the mentor training method is the most effective method may motivate them to sharpen their skills on their own.

Most importantly, the mentoring teaching method assumes that the mentor excels in each one of the human skills. While many Chiefs of Supply may excel in a few of the skills, it is unlikely that they will excel in all the skills required. Instead of relying on the mentoring training method alone, the second most effective training method, behavior modeling or simulation exercise, should also be incorporated into the training.

A specific written plan should be developed to implement the training for the eleven human skills in this study. This plan should be a map that can be tailored for each supply officer and address when and how this training will be accomplished. This training should occur between the four to ten year point of a supply officer's career.

This plan and the training could be developed by the Air Force Logistics Management Center. Because this training is not technical in nature, it is unlikely the Air Training Command would develop this training.

Recommendations for Future Studies

Additional research is needed to validate the skills list and the most effective training methods. Are these

really the most effective training methods? The Delphi technique could be used to validate the most effective training methods. This would involve providing the respondents with the training methods matched to the specific human skills and asking them to validate the results.

The skills list should also be revalidated with supply officers. The list of skills requiring training should be sent back out to supply officers to revalidate if these are the skills in which they actually need training. This should be accomplished with the same population as the earlier study, first lieutenants through majors and chiefs of supply.

Conclusion

This chapter presented the most effective and ineffective training methods for each of the eleven human skills. The match between the appropriate training method and skill has now been made. The next step is for this training to be developed and delivered to supply officers.

Appendix A: Matching Development Needs
to Training Methods Survey



DEPARTMENT OF THE AIR FORCE
AIR FORCE LOGISTICS MANAGEMENT CENTER
GUNTER AIR FORCE BASE, AL 36114-6693

Dear Management Development and Training Professional,

You have been identified as a management development and training expert who is involved with the Department of Defense. Because of your professional background, we need your assistance in identifying the best training methods for developing specific human skills.

A previous Air Force Institute of Technology (AFIT) study identified eleven human skills requiring development for a specific managerial position of interest. Based on this earlier work, we are now trying to identify the most effective training methods for each of these skills. Your participation in determining the most effective training method is crucial. Please take a few minutes to complete the attached survey to assist us with this important task.

All your responses will be treated confidentially. Individual identification is not required. No individual or organization will be identified when using this material unless you give specific written permission. If you are willing to be interviewed by phone or if you wish to receive a summary of this study, you may include your name, address, and phone number in the space indicated on the last section of the survey.

A pre-addressed envelope is enclosed for your convenience. Please return your responses within two weeks of receipt. If you have any questions concerning this study please contact Captain Kevin Illsley at AFIT/LSG, AUTOVON 785-8989, Commercial (513) 255-8989, or FAX AUTOVON 785-8458.

Thank you,

A handwritten signature in cursive script, reading "Tim O. Peterson", is written over a horizontal line.

TIM O. PETERSON, Lt Col, USAF
Director of Training and Knowledge Systems

- 2 Atchs
1. Survey (Control #LK890867)
2. Return Envelope

MATCHING DEVELOPMENT NEEDS TO TRAINING METHODS

GENERAL INSTRUCTIONS

The purpose of this survey is to obtain data concerning your expert opinion on matching a specific human skill to a training method. Eleven human skills are identified in this survey, along with eleven common training methods. The equal number of skills and training methods is a coincidence and not meant to imply anything (i.e. there is not a one to one match). The training methods identified in this survey are broadly defined. For example: role play, case studies, and experiential learning are considered to be training strategies or techniques. The training methods are defined below.

DEFINITIONS

BEHAVIOR MODELING - A teaching-learning method based on several widely accepted principles of adult learning: modeling or imitation, behavioral rehearsal or practice, and reinforcement or reward.

CLASSROOM LECTURE - A well-prepared one-way presentation given before a group in a formal environment for instructional purposes.

COMPUTER BASED TRAINING - The delivery of instructional material through computer media. In this method, the computer substitutes for the instructor.

CORRESPONDENCE COURSE - Paper-based instructional method in which materials are sent to learners at their work site. The material is completed by the learner without an instructor and returned to the sender for grading and feedback.

INTERACTIVE VIDEO DISK - This method is similar to computer based training, but includes audio and video images.

ON-THE-JOB EXPERIENCES - Activities conducted at the work site to help the learner develop job-related competencies while engaging in productive work at the same time.

MENTORING - Learning from someone who excels in a particular subject or skill and takes an interest in guiding and instructing a less experienced, usually younger person.

SIMULATION EXERCISE - A representation of a real-life situation- usually a situation requiring appropriate actions and reactions or a situation requiring the demonstration of technical expertise.

SEMINAR/WORKSHOP - A directed discussion involving several individuals with a facilitator, who also serves as a resource.

VIDEO TAPE - Delivery of instructional materials through the use of a recording of audio and visual images.

WILDERNESS EXPERIENCES - An outdoor lab usually requiring the learners to participate in a set of physical challenges.

Section 1

INSTRUCTIONS

This part contains a list of the training methods defined on the previous page. Place a check in front of each training method that you are familiar with its use. To be familiar with a training method you should have had at least one experience using the method.

- | | |
|--|---|
| <input type="checkbox"/> BEHAVIOR MODELING <input type="checkbox"/> CLASSROOM LECTURE <input type="checkbox"/> COMPUTER BASED TRAINING <input type="checkbox"/> CORRESPONDENCE COURSE <input type="checkbox"/> INTERACTIVE VIDEO DISK <input type="checkbox"/> ON-THE-JOB EXPERIENCES | <input type="checkbox"/> MENTORING <input type="checkbox"/> SIMULATION EXERCISE <input type="checkbox"/> SEMINAR/WORKSHOP <input type="checkbox"/> VIDEO TAPE <input type="checkbox"/> WILDERNESS EXPERIENCES |
|--|---|

INSTRUCTIONS

This part contains a set of human skills followed by a list of the potential training methods. Use the scale below to **RATE HOW EFFECTIVE YOU BELIEVE THE TRAINING METHOD IS IN TEACHING THE HUMAN SKILL**. The word effective is used to imply that the training method will produce direct improvements in performance on the job, even though it may not be the cheapest. Rate each method even if you do not have experience with that method. Enter the number in the space provided after each question. Use only the integers 1-6, do not use fractions or decimals (2½ or 2.5 is not allowed). NOTE: In the example below, the incorrect entry after Video Tape has been corrected (a choice must be made between 3 or 4).

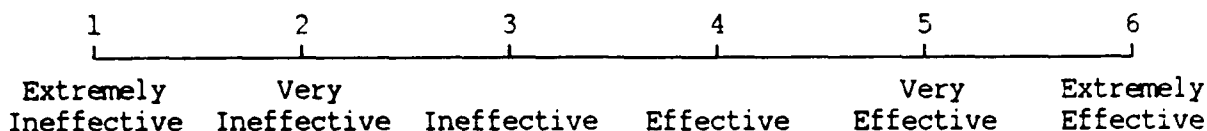
| | | | | | |
|-------------|-------------|-------------|-----------|-----------|-----------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| Extremely | Very | | | Very | Extremely |
| Ineffective | Ineffective | Ineffective | Effective | Effective | Effective |

EXAMPLE:

MANAGING STRESS is the extent to which a manager identifies sources of major stress, develops effective time management techniques, and develops effective coping mechanisms.

Rate each of the following in terms of its effectiveness in teaching this skill:

- | | |
|----------------------------------|---------------------------------|
| a. BEHAVIOR MODELING _____ | g. MENTORING _____ |
| b. CLASSROOM LECTURE _____ | h. SIMULATION EXERCISE _____ |
| c. COMPUTER BASED TRAINING _____ | i. SEMINAR/WORKSHOP _____ |
| d. CORRESPONDENCE COURSE _____ | j. VIDEO TAPE _____ |
| e. INTERACTIVE VIDEO DISK _____ | k. WILDERNESS EXPERIENCES _____ |
| f. ON-THE-JOB EXPERIENCES _____ | |



1. **ACTING CONSISTENTLY** is the extent to which subordinates feel a manager is consistent in responses, actions, and policies.

Rate each of the following in terms of its effectiveness in teaching this skill:

- | | | | |
|----------------------------|-------|---------------------------|-------|
| a. BEHAVIOR MODELING | _____ | g. MENTORING | _____ |
| b. CLASSROOM LECTURE | _____ | h. SIMULATION EXERCISE | _____ |
| c. COMPUTER BASED TRAINING | _____ | i. SEMINAR/WORKSHOP | _____ |
| d. CORRESPONDENCE COURSE | _____ | j. VIDEO TAPE | _____ |
| e. INTERACTIVE VIDEO DISK | _____ | k. WILDERNESS EXPERIENCES | _____ |
| f. ON-THE-JOB EXPERIENCES | _____ | | |

2. **INSPIRING SUBORDINATES** is the extent to which a manager can stimulate enthusiasm among subordinates for the work of a group, and say things to build their confidence in the group's ability to successfully attain its objectives.

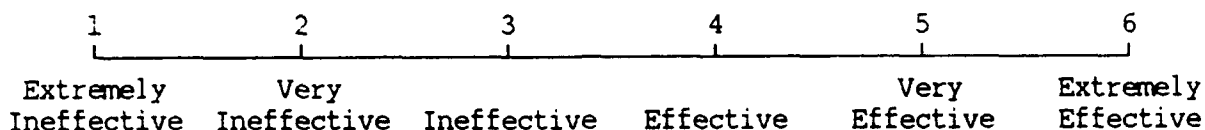
Rate each of the following in terms of its effectiveness in teaching this skill:

- | | | | |
|----------------------------|-------|---------------------------|-------|
| a. BEHAVIOR MODELING | _____ | g. MENTORING | _____ |
| b. CLASSROOM LECTURE | _____ | h. SIMULATION EXERCISE | _____ |
| c. COMPUTER BASED TRAINING | _____ | i. SEMINAR/WORKSHOP | _____ |
| d. CORRESPONDENCE COURSE | _____ | j. VIDEO TAPE | _____ |
| e. INTERACTIVE VIDEO DISK | _____ | k. WILDERNESS EXPERIENCES | _____ |
| f. ON-THE-JOB EXPERIENCES | _____ | | |

3. **EMPHASIZING PERFORMANCE** is the extent to which a manager can emphasize the importance of subordinates performance and encourage subordinates to make a maximum effort.

Rate each of the following in terms of its effectiveness in teaching this skill:

- | | | | |
|----------------------------|-------|---------------------------|-------|
| a. BEHAVIOR MODELING | _____ | g. MENTORING | _____ |
| b. CLASSROOM LECTURE | _____ | h. SIMULATION EXERCISE | _____ |
| c. COMPUTER BASED TRAINING | _____ | i. SEMINAR/WORKSHOP | _____ |
| d. CORRESPONDENCE COURSE | _____ | j. VIDEO TAPE | _____ |
| e. INTERACTIVE VIDEO DISK | _____ | k. WILDERNESS EXPERIENCES | _____ |
| f. ON-THE-JOB EXPERIENCES | _____ | | |



4. **PERFORMANCE COMMUNICATION** is the extent to which a manager communicates information about the quality of a subordinate's work or how well he is doing.

Rate each of the following in terms of its effectiveness in teaching this skill:

- | | | | |
|----------------------------|-------|---------------------------|-------|
| a. BEHAVIOR MODELING | _____ | g. MENTORING | _____ |
| b. CLASSROOM LECTURE | _____ | h. SIMULATION EXERCISE | _____ |
| c. COMPUTER BASED TRAINING | _____ | i. SEMINAR/WORKSHOP | _____ |
| d. CORRESPONDENCE COURSE | _____ | j. VIDEO TAPE | _____ |
| e. INTERACTIVE VIDEO DISK | _____ | k. WILDERNESS EXPERIENCES | _____ |
| f. ON-THE-JOB EXPERIENCES | _____ | | |

5. **PLANNING AND ORGANIZING** is the extent to which a manager plans in advance how to improve efficiency and productivity, schedule work, coordinate work unit activities, accomplish task objectives and strategies, and cope with potential problems.

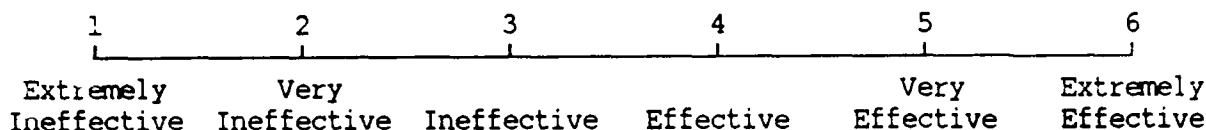
Rate each of the following in terms of its effectiveness in teaching this skill:

- | | | | |
|----------------------------|-------|---------------------------|-------|
| a. BEHAVIOR MODELING | _____ | g. MENTORING | _____ |
| b. CLASSROOM LECTURE | _____ | h. SIMULATION EXERCISE | _____ |
| c. COMPUTER BASED TRAINING | _____ | i. SEMINAR/WORKSHOP | _____ |
| d. CORRESPONDENCE COURSE | _____ | j. VIDEO TAPE | _____ |
| e. INTERACTIVE VIDEO DISK | _____ | k. WILDERNESS EXPERIENCES | _____ |
| f. ON-THE-JOB EXPERIENCES | _____ | | |

6. **PROVIDING PRAISE AND RECOGNITION** is the extent to which a manager provides appropriate praise and recognition to subordinates with effective performance, and shows appreciation for special efforts and contributions made by subordinates.

Rate each of the following in terms of its effectiveness in teaching this skill:

- | | | | |
|----------------------------|-------|---------------------------|-------|
| a. BEHAVIOR MODELING | _____ | g. MENTORING | _____ |
| b. CLASSROOM LECTURE | _____ | h. SIMULATION EXERCISE | _____ |
| c. COMPUTER BASED TRAINING | _____ | i. SEMINAR/WORKSHOP | _____ |
| d. CORRESPONDENCE COURSE | _____ | j. VIDEO TAPE | _____ |
| e. INTERACTIVE VIDEO DISK | _____ | k. WILDERNESS EXPERIENCES | _____ |
| f. ON-THE-JOB EXPERIENCES | _____ | | |



7. **COMMUNICATING A SHARED UNDERSTANDING** is the extent to which a manager ensures each member of the work unit shares the same concept of project taskings, goals, and performance expectations.

Rate each of the following in terms of its effectiveness in teaching this skill:

- | | | | |
|----------------------------|-------|---------------------------|-------|
| a. BEHAVIOR MODELING | _____ | g. MENTORING | _____ |
| b. CLASSROOM LECTURE | _____ | h. SIMULATION EXERCISE | _____ |
| c. COMPUTER BASED TRAINING | _____ | i. SEMINAR/WORKSHOP | _____ |
| d. CORRESPONDENCE COURSE | _____ | j. VIDEO TAPE | _____ |
| e. INTERACTIVE VIDEO DISK | _____ | k. WILDERNESS EXPERIENCES | _____ |
| f. ON-THE-JOB EXPERIENCES | _____ | | |

8. **FORESIGHT** is the extent to which a manager can look to new opportunities for the work unit to exploit, propose new activities to undertake, and offer innovative ideas for strengthening the work unit.

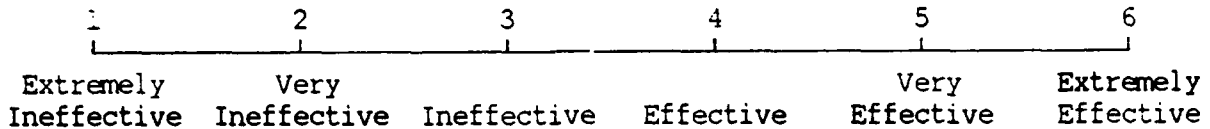
Rate each of the following in terms of its effectiveness in teaching this skill:

- | | | | |
|----------------------------|-------|---------------------------|-------|
| a. BEHAVIOR MODELING | _____ | g. MENTORING | _____ |
| b. CLASSROOM LECTURE | _____ | h. SIMULATION EXERCISE | _____ |
| c. COMPUTER BASED TRAINING | _____ | i. SEMINAR/WORKSHOP | _____ |
| d. CORRESPONDENCE COURSE | _____ | j. VIDEO TAPE | _____ |
| e. INTERACTIVE VIDEO DISK | _____ | k. WILDERNESS EXPERIENCES | _____ |
| f. ON-THE-JOB EXPERIENCES | _____ | | |

9. **ENTHUSIASM** is the extent to which a manager can demonstrate interest or excitement about her job.

Rate each of the following in terms of its effectiveness in teaching this skill:

- | | | | |
|----------------------------|-------|---------------------------|-------|
| a. BEHAVIOR MODELING | _____ | g. MENTORING | _____ |
| b. CLASSROOM LECTURE | _____ | h. SIMULATION EXERCISE | _____ |
| c. COMPUTER BASED TRAINING | _____ | i. SEMINAR/WORKSHOP | _____ |
| d. CORRESPONDENCE COURSE | _____ | j. VIDEO TAPE | _____ |
| e. INTERACTIVE VIDEO DISK | _____ | k. WILDERNESS EXPERIENCES | _____ |
| f. ON-THE-JOB EXPERIENCES | _____ | | |



10. **INTROSPECTION** is the extent to which a manager understands his job, is sensitive to his impact on the organization, and is aware of his own strengths and weaknesses.

Rate each of the following in terms of its effectiveness in teaching this skill:

- | | | | |
|----------------------------|-------|---------------------------|-------|
| a. BEHAVIOR MODELING | _____ | g. MENTORING | _____ |
| b. CLASSROOM LECTURE | _____ | h. SIMULATION EXERCISE | _____ |
| c. COMPUTER BASED TRAINING | _____ | i. SEMINAR/WORKSHOP | _____ |
| d. CORRESPONDENCE COURSE | _____ | j. VIDEO TAPE | _____ |
| e. INTERACTIVE VIDEO DISK | _____ | k. WILDERNESS EXPERIENCES | _____ |
| f. ON-THE-JOB EXPERIENCES | _____ | | |

11. **SETTING GOALS** is the extent to which a manager, either alone or jointly with a subordinate, sets specific, challenging, but realistic, performance goals for each important aspect of the subordinate's job.

Rate each of the following in terms of its effectiveness in teaching this skill:

- | | | | |
|----------------------------|-------|---------------------------|-------|
| a. BEHAVIOR MODELING | _____ | g. MENTORING | _____ |
| b. CLASSROOM LECTURE | _____ | h. SIMULATION EXERCISE | _____ |
| c. COMPUTER BASED TRAINING | _____ | i. SEMINAR/WORKSHOP | _____ |
| d. CORRESPONDENCE COURSE | _____ | j. VIDEO TAPE | _____ |
| e. INTERACTIVE VIDEO DISK | _____ | k. WILDERNESS EXPERIENCES | _____ |
| f. ON-THE-JOB EXPERIENCES | _____ | | |

Section 2

INSTRUCTIONS: This section contains questions which provide for a ranking of the top and bottom three training methods for each skill. Use the following training methods in selecting your responses. Enter the number (1-11) in the space provided after each choice. The training methods are defined on page 1.

TRAINING METHODS

- | | |
|----------------------------|----------------------------|
| 1. Behavior Modeling | 7. Mentoring |
| 2. Classroom Lecture | 8. Simulation Exercises |
| 3. Computer Based Training | 9. Seminar/Workshop |
| 4. Correspondence Course | 10. Video Tape |
| 5. Interactive Video Disk | 11. Wilderness Experiences |
| 6. On-the-Job Experiences | |

1. Rank order the top and bottom three training methods for teaching **ACTING CONSISTENTLY**:

| | |
|-------------------------------------|-------|
| Most effective (first choice) | _____ |
| Next most effective (second choice) | _____ |
| Next most effective (third choice) | _____ |
| Next least effective (ninth choice) | _____ |
| Next least effective (tenth choice) | _____ |
| Least effective (last choice) | _____ |

2. Rank order the top and bottom three training methods for teaching **INSPIRING SUBORDINATES**:

| | |
|-------------------------------------|-------|
| Most effective (first choice) | _____ |
| Next most effective (second choice) | _____ |
| Next most effective (third choice) | _____ |
| Next least effective (ninth choice) | _____ |
| Next least effective (tenth choice) | _____ |
| Least effective (last choice) | _____ |

TRAINING METHODS

- | | |
|----------------------------|----------------------------|
| 1. Behavior Modeling | 7. Mentoring |
| 2. Classroom Lecture | 8. Simulation Exercises |
| 3. Computer Based Training | 9. Seminar/Workshop |
| 4. Correspondence Course | 10. Video Tape |
| 5. Interactive Video Disk | 11. Wilderness Experiences |
| 6. On-the-Job Experiences | |

3. Rank order the top and bottom three training methods for teaching **EMPHASIZING PERFORMANCE:**

| | |
|-------------------------------------|-------|
| Most effective (first choice) | _____ |
| Next most effective (second choice) | _____ |
| Next most effective (third choice) | _____ |
| Next least effective (ninth choice) | _____ |
| Next least effective (tenth choice) | _____ |
| Least effective (last choice) | _____ |

4. Rank order the top and bottom three training methods for teaching **PERFORMANCE COMMUNICATION:**

| | |
|-------------------------------------|-------|
| Most effective (first choice) | _____ |
| Next most effective (second choice) | _____ |
| Next most effective (third choice) | _____ |
| Next least effective (ninth choice) | _____ |
| Next least effective (tenth choice) | _____ |
| Least effective (last choice) | _____ |

5. Rank order the top and bottom three training methods for teaching **PLANNING AND ORGANIZING:**

| | |
|-------------------------------------|-------|
| Most effective (first choice) | _____ |
| Next most effective (second choice) | _____ |
| Next most effective (third choice) | _____ |
| Next least effective (ninth choice) | _____ |
| Next least effective (tenth choice) | _____ |
| Least effective (last choice) | _____ |

TRAINING METHODS

- | | |
|----------------------------|----------------------------|
| 1. Behavior Modeling | 7. Mentoring |
| 2. Classroom Lecture | 8. Simulation Exercises |
| 3. Computer Based Training | 9. Seminar/Workshop |
| 4. Correspondence Course | 10. Video Tape |
| 5. Interactive Video Disk | 11. Wilderness Experiences |
| 6. On-the-Job Experiences | |

6. Rank order the top and bottom three training methods for teaching
PROVIDING PRAISE AND RECOGNITION:

| | |
|-------------------------------------|-------|
| Most effective (first choice) | _____ |
| Next most effective (second choice) | _____ |
| Next most effective (third choice) | _____ |
| Next least effective (ninth choice) | _____ |
| Next least effective (tenth choice) | _____ |
| Least effective (last choice) | _____ |

7. Rank order the top and bottom three training methods for teaching
COMMUNICATING A SHARED UNDERSTANDING:

| | |
|-------------------------------------|-------|
| Most effective (first choice) | _____ |
| Next most effective (second choice) | _____ |
| Next most effective (third choice) | _____ |
| Next least effective (ninth choice) | _____ |
| Next least effective (tenth choice) | _____ |
| Least effective (last choice) | _____ |

8. Rank order the top and bottom three training methods for teaching
FORESIGHT:

| | |
|-------------------------------------|-------|
| Most effective (first choice) | _____ |
| Next most effective (second choice) | _____ |
| Next most effective (third choice) | _____ |
| Next least effective (ninth choice) | _____ |
| Next least effective (tenth choice) | _____ |
| Least effective (last choice) | _____ |

TRAINING METHODS

- | | |
|----------------------------|----------------------------|
| 1. Behavior Modeling | 7. Mentoring |
| 2. Classroom Lecture | 8. Simulation Exercises |
| 3. Computer Based Training | 9. Seminar/Workshop |
| 4. Correspondence Course | 10. Video Tape |
| 5. Interactive Video Disk | 11. Wilderness Experiences |
| 6. On-the-Job Experiences | |

9. Rank order the top and bottom three training methods for teaching **ENTHUSIASM**:

| | |
|-------------------------------------|-------|
| Most effective (first choice) | _____ |
| Next most effective (second choice) | _____ |
| Next most effective (third choice) | _____ |
| Next least effective (ninth choice) | _____ |
| Next least effective (tenth choice) | _____ |
| Least effective (last choice) | _____ |

10. Rank order the top and bottom three training methods for teaching **INTROSPECTION**:

| | |
|-------------------------------------|-------|
| Most effective (first choice) | _____ |
| Next most effective (second choice) | _____ |
| Next most effective (third choice) | _____ |
| Next least effective (ninth choice) | _____ |
| Next least effective (tenth choice) | _____ |
| Least effective (last choice) | _____ |

11. Rank order the top and bottom three training methods for teaching **SETTING GOALS**:

| | |
|-------------------------------------|-------|
| Most effective (first choice) | _____ |
| Next most effective (second choice) | _____ |
| Next most effective (third choice) | _____ |
| Next least effective (ninth choice) | _____ |
| Next least effective (tenth choice) | _____ |
| Least effective (last choice) | _____ |

Section 3

INSTRUCTIONS: This section contains questions relating to background information. Please circle the correct response or write your answer in the space provided.

1. Which one of the following best describes your current position?

1. Military
2. Civilian (Federal Government Employee)
3. Civilian (Not employed by the Federal Government)
4. Other (please specify) _____

2. Which organization do you currently work for?

1. Army
2. Navy
3. Marines
4. Air Force
5. Other Department of Defense Agency
6. Not affiliated with the Department of Defense

3. Do you consider your current job to be extensively involved in training?

1. Yes
2. No

4. How many years and months of experience as a trainer do you have?

_____ Years _____ Months

5. What percent of your normal workweek are you involved in training or education activities? (0% to 100%)

_____ %

6. What is your highest educational level?

1. High school
2. Some college work
3. Associate's Degree
4. Bachelor's Degree
5. Some graduate work
6. Master's Degree
7. Some work beyond Master's Degree
8. Doctoral Degree
9. Post Doctoral Degree

7. What field is your degree in?

1. I do not have a Degree
 2. Management
 3. Organizational Psychology
 4. Instructional Technology
 5. Instructional Design
 6. Education
 7. Other (please specify)
-

8. Have you been a member of any of the following management/training professional organizations? (circle as many as appropriate)

1. No, I am not a member of any professional organizations
 2. American Management Association (AMA)
 3. American Society for Training and Development (ASTD)
 4. National Society for Performance and Instruction (NSPI)
 5. Society for Applied Learning Technology (SALT)
 6. Other (please specify)
-

9. How extensively have you developed your training skills through professional development courses or workshops? (circle your position on the scale below)

| | | | | | |
|-------|--------|------|----------|-------|------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| <hr/> | | | | | |
| None | Little | Some | Moderate | Broad | Vast |

Section 4

INSTRUCTIONS: Write your responses to the questions in the space provided.

1. Are there any other training techniques such as exercises, case studies or video tapes that you consider useful in teaching human skills? If so, please identify the technique.
2. Are you willing to be interviewed by phone after this data has been compiled? If so please write your name and work phone below.
3. If you are interested in receiving a summary of the results of this research please write your name and complete mailing address below.

Appendix B: Demographic Data

| | | |
|---|-----------|---------|
| 1. Which one of the following best describes your current position? | Frequency | Percent |
| Military | 26 | 17.1 |
| Civilian (Federal Government Employee) | 49 | 32.2 |
| Civilian (Not employed by the Federal Govt) | 63 | 41.4 |
| Other | 14 | 9.2 |
| | <hr/> | <hr/> |
| TOTAL | 152 | 100.0 |
| | | |
| 2. Which organization do you currently work for? | Frequency | Percent |
| Army | 21 | 13.8 |
| Navy | 24 | 15.8 |
| Marines | 1 | 0.7 |
| Air Force | 27 | 17.8 |
| Other Department of Defense Agency | 8 | 5.3 |
| Not affiliated with the DOD | 71 | 46.7 |
| | | |
| 3. Do you consider your current job to be extensively involved in training? | Frequency | Percent |
| Yes | 139 | 91.4 |
| No | 13 | 8.6 |
| | | |
| 4. How many years and months of experience as a trainer do you have? | Frequency | Percent |
| Less than 5 years | 17 | 11.2 |
| 5 years, but less than 10 | 28 | 18.4 |
| 10 years, but less than 15 | 39 | 25.6 |
| 15 years, but less than 20 | 23 | 15.1 |
| 20 years, but less than 25 | 30 | 19.7 |
| 25 years, but less than 30 | 11 | 7.2 |
| More than 30 years | 4 | 2.6 |

5. What percent of your work week are you involved in training or education activities? Frequency Percent

| | | |
|---------------------------------------|----|------|
| Less than 10 percent | 2 | 1.3 |
| 10 percent, but less than 20 percent | 4 | 2.6 |
| 20 percent, but less than 30 percent | 7 | 4.6 |
| 30 percent, but less than 40 percent | 1 | 0.7 |
| 40 percent, but less than 50 percent | 3 | 2.0 |
| 50 percent, but less than 60 percent | 10 | 6.5 |
| 60 percent, but less than 70 percent | 5 | 3.3 |
| 70 percent, but less than 80 percent | 11 | 7.2 |
| 80 percent, but less than 90 percent | 24 | 15.3 |
| 90 percent, but less than 100 percent | 21 | 13.8 |
| 100 percent | 64 | 42.1 |

6. What is your highest educational level? Frequency Percent

| | | |
|----------------------------------|----|------|
| High school | 0 | 0.0 |
| Some college work | 7 | 4.6 |
| Associate's Degree | 1 | 0.7 |
| Bachelor's Degree | 12 | 7.9 |
| Some graduate work | 19 | 11.8 |
| Master's Degree | 40 | 26.3 |
| Some work beyond Master's Degree | 40 | 26.3 |
| Doctoral Degree | 31 | 20.4 |
| Post Doctoral Degree | 3 | 2.0 |

7. What field is your degree in? Frequency Percent

| | | |
|---------------------------|----|------|
| I do not have a Degree | 6 | 3.9 |
| Management | 22 | 14.5 |
| Organizational Psychology | 2 | 1.3 |
| Instructional Technology | 8 | 5.3 |
| Instructional Design | 5 | 3.3 |
| Education | 39 | 25.7 |
| Other | 50 | 32.9 |
| More than one Degree | 20 | 13.2 |

8. Have you been a member of any of the following management/training professional organizations?

| | Frequency | Percent |
|---|-----------|---------|
| No, I am not a member of any professional organizations | 4 | 2.6 |
| American Management Association (AMA) | 19 | 12.5 |
| American Society for Training and Development (ASTD) | 116 | 76.3 |
| National Society for Performance and Instruction (NSPI) | 62 | 40.8 |
| Society for Applied Learning Technology (SALT) | 15 | 9.9 |
| Other | 38 | 25.0 |

9. How extensively have you developed your training skills through professional development courses or workshops?

| | Frequency | Percent |
|----------|-----------|---------|
| None | 4 | 2.6 |
| Little | 8 | 5.3 |
| Some | 29 | 19.1 |
| Moderate | 43 | 28.3 |
| Broad | 50 | 32.9 |
| Vast | 18 | 11.8 |

Appendix C: Section 1 Results Sorted by Mean

Effectiveness Rating (Likert Scale 1-6)
Possible Score from 1 to 6

| SKILL | TRAINING METHOD | MEAN |
|--------------------------------|---------------------|------|
| Providing Praise & Recognition | Mentoring | 5.22 |
| Inspiring Subordinates | Mentoring | 5.22 |
| Emphasizing Performance | Mentoring | 5.17 |
| Acting Consistently | Mentoring | 5.14 |
| Setting Goals | Mentoring | 5.13 |
| Acting Consistently | Behavior Modeling | 5.13 |
| Inspiring Subordinates | Behavior Modeling | 5.13 |
| Providing Praise & Recognition | Behavior Modeling | 5.13 |
| Enthusiasm | Mentoring | 5.09 |
| Foresight | Mentoring | 5.07 |
| Emphasizing Performance | Behavior Modeling | 5.07 |
| Enthusiasm | Behavior Modeling | 5.05 |
| Planning & Organizing | Simulation Exercise | 5.04 |
| Introspection | Mentoring | 5.03 |
| Performance Communication | Mentoring | 5.03 |
| Comm. a Shared Understanding | Simulation Exercise | 5.01 |
| Performance Communication | Behavior Modeling | 5.00 |
| Providing Praise & Recognition | Simulation Exercise | 5.00 |
| Setting Goals | Simulation Exercise | 4.98 |
| Planning & Organizing | Mentoring | 4.96 |
| Comm. a Shared Understanding | Mentoring | 4.95 |
| Performance Communication | Simulation Exercise | 4.93 |
| Inspiring Subordinates | Simulation Exercise | 4.93 |
| Acting Consistently | Simulation Exercise | 4.92 |
| Emphasizing Performance | Simulation Exercise | 4.89 |
| Setting Goals | On-the-Job Training | 4.81 |
| Foresight | Simulation Exercise | 4.80 |
| Comm. a Shared Understanding | Behavior Modeling | 4.78 |
| Enthusiasm | On-the-Job Training | 4.77 |
| Emphasizing Performance | On-the-Job Training | 4.77 |
| Setting Goals | Behavior Modeling | 4.76 |
| Planning & Organizing | On-the-Job Training | 4.76 |
| Inspiring Subordinates | On-the-Job Training | 4.75 |
| Performance Communication | On-the-Job Training | 4.74 |
| Providing Praise & Recognition | On-the-Job Training | 4.72 |
| Acting Consistently | On-the-Job Training | 4.71 |
| Foresight | On-the-Job Training | 4.71 |
| Introspection | Simulation Exercise | 4.70 |
| Introspection | On-the-Job Training | 4.67 |
| Comm. a Shared Understanding | On-the-Job Training | 4.66 |

| SKILL | TRAINING METHOD | MEAN |
|--------------------------------|-------------------------|------|
| Enthusiasm | Simulation Exercise | 4.64 |
| Planning & Organizing | Behavior Modeling | 4.55 |
| Foresight | Behavior Modeling | 4.45 |
| Planning & Organizing | Seminar/Workshop | 4.41 |
| Setting Goals | Seminar/Workshop | 4.39 |
| Introspection | Behavior Modeling | 4.37 |
| Foresight | Seminar/Workshop | 4.34 |
| Comm. a Shared Understanding | Seminar/Workshop | 4.34 |
| Introspection | Seminar/Workshop | 4.29 |
| Providing Praise & Recognition | Seminar/Workshop | 4.26 |
| Performance Communication | Seminar/Workshop | 4.20 |
| Enthusiasm | Seminar/Workshop | 4.11 |
| Emphasizing Performance | Seminar/Workshop | 4.11 |
| Inspiring Subordinates | Seminar/Workshop | 4.09 |
| Inspiring Subordinates | Wilderness Experiences | 4.05 |
| Acting Consistently | Seminar/Workshop | 4.02 |
| Emphasizing Performance | Wilderness Experiences | 3.93 |
| Enthusiasm | Wilderness Experiences | 3.91 |
| Planning & Organizing | Interactive Video Disc | 3.90 |
| Comm. a Shared Understanding | Wilderness Experiences | 3.90 |
| Setting Goals | Wilderness Experiences | 3.84 |
| Introspection | Wilderness Experiences | 3.78 |
| Acting Consistently | Interactive Video Disc | 3.76 |
| Providing Praise & Recognition | Wilderness Experiences | 3.70 |
| Foresight | Wilderness Experiences | 3.69 |
| Planning & Organizing | Computer Based Training | 3.66 |
| Planning & Organizing | Classroom Lecture | 3.61 |
| Planning & Organizing | Wilderness Experiences | 3.59 |
| Performance Communication | Wilderness Experiences | 3.55 |
| Setting Goals | Interactive Video Disc | 3.53 |
| Emphasizing Performance | Interactive Video Disc | 3.51 |
| Providing Praise & Recognition | Interactive Video Disc | 3.51 |
| Performance Communication | Interactive Video Disc | 3.49 |
| Setting Goals | Classroom Lecture | 3.39 |
| Inspiring Subordinates | Interactive Video Disc | 3.39 |
| Planning & Organizing | Video Tape | 3.36 |
| Acting Consistently | Wilderness Experiences | 3.32 |
| Comm. a Shared Understanding | Interactive Video Disc | 3.31 |
| Acting Consistently | Video Tape | 3.27 |
| Performance Communication | Video Tape | 3.27 |
| Introspection | Interactive Video Disc | 3.25 |
| Inspiring Subordinates | Video Tape | 3.24 |
| Emphasizing Performance | Video Tape | 3.24 |
| Foresight | Interactive Video Disc | 3.23 |
| Setting Goals | Computer Based Training | 3.22 |
| Providing Praise & Recognition | Video Tape | 3.19 |

| SKILL | TRAINING METHOD | MEAN |
|--------------------------------|-------------------------|------|
| Providing Praise & Recognition | Classroom Lecture | 3.14 |
| Comm. a Shared Understanding | Classroom Lecture | 3.12 |
| Emphasizing Performance | Classroom Lecture | 3.12 |
| Performance Communication | Classroom Lecture | 3.11 |
| Foresight | Classroom Lecture | 3.10 |
| Comm. a Shared Understanding | Video Tape | 3.09 |
| Setting Goals | Video Tape | 3.01 |
| Introspection | Video Tape | 2.99 |
| Inspiring Subordinates | Classroom Lecture | 2.97 |
| Enthusiasm | Interactive Video Disc | 2.95 |
| Foresight | Video Tape | 2.95 |
| Introspection | Classroom Lecture | 2.93 |
| Acting Consistently | Classroom Lecture | 2.91 |
| Enthusiasm | Classroom Lecture | 2.90 |
| Enthusiasm | Video Tape | 2.89 |
| Planning & Organizing | Correspondence Course | 2.88 |
| Foresight | Computer Based Training | 2.88 |
| Providing Praise & Recognition | Computer Based Training | 2.85 |
| Acting Consistently | Computer Based Training | 2.85 |
| Emphasizing Performance | Computer Based Training | 2.83 |
| Introspection | Computer Based Training | 2.79 |
| Performance Communication | Computer Based Training | 2.77 |
| Comm. a Shared Understanding | Computer Based Training | 2.77 |
| Setting Goals | Correspondence Course | 2.54 |
| Inspiring Subordinates | Computer Based Training | 2.51 |
| Enthusiasm | Computer Based Training | 2.37 |
| Introspection | Correspondence Course | 2.27 |
| Comm. a Shared Understanding | Correspondence Course | 2.27 |
| Foresight | Correspondence Course | 2.27 |
| Providing Praise & Recognition | Correspondence Course | 2.26 |
| Acting Consistently | Correspondence Course | 2.20 |
| Emphasizing Performance | Correspondence Course | 2.19 |
| Performance Communication | Correspondence Course | 2.18 |
| Inspiring Subordinates | Correspondence Course | 2.02 |
| Enthusiasm | Correspondence Course | 1.97 |

Appendix D: Section 1 Results Sorted by Skill

Effectiveness Rating (Likert Scale 1-6)
Possible Score from 1 to 6

| SKILL | TRAINING METHOD | MEAN |
|------------------------------|-------------------------|------|
| Acting Consistently | Mentoring | 5.14 |
| Acting Consistently | Behavior Modeling | 5.13 |
| Acting Consistently | Simulation Exercise | 4.92 |
| Acting Consistently | On-the-Job Training | 4.71 |
| Acting Consistently | Seminar/Workshop | 4.02 |
| Acting Consistently | Interactive Video Disc | 3.76 |
| Acting Consistently | Wilderness Experiences | 3.32 |
| Acting Consistently | Video Tape | 3.27 |
| Acting Consistently | Classroom Lecture | 2.91 |
| Acting Consistently | Computer Based Training | 2.85 |
| Acting Consistently | Correspondence Course | 2.20 |
| Comm. a Shared Understanding | Simulation Exercise | 5.01 |
| Comm. a Shared Understanding | Mentoring | 4.95 |
| Comm. a Shared Understanding | Behavior Modeling | 4.78 |
| Comm. a Shared Understanding | On-the-Job Training | 4.66 |
| Comm. a Shared Understanding | Seminar/Workshop | 4.34 |
| Comm. a Shared Understanding | Wilderness Experiences | 3.90 |
| Comm. a Shared Understanding | Interactive Video Disc | 3.31 |
| Comm. a Shared Understanding | Classroom Lecture | 3.12 |
| Comm. a Shared Understanding | Video Tape | 3.09 |
| Comm. a Shared Understanding | Computer Based Training | 2.77 |
| Comm. a Shared Understanding | Correspondence Course | 2.27 |
| Emphasizing Performance | Mentoring | 5.17 |
| Emphasizing Performance | Behavior Modeling | 5.07 |
| Emphasizing Performance | Simulation Exercise | 4.89 |
| Emphasizing Performance | On-the-Job Training | 4.77 |
| Emphasizing Performance | Seminar/Workshop | 4.11 |
| Emphasizing Performance | Wilderness Experiences | 3.93 |
| Emphasizing Performance | Interactive Video Disc | 3.51 |
| Emphasizing Performance | Video Tape | 3.24 |
| Emphasizing Performance | Classroom Lecture | 3.12 |
| Emphasizing Performance | Computer Based Training | 2.33 |
| Emphasizing Performance | Correspondence Course | 2.19 |
| Enthusiasm | Mentoring | 5.09 |
| Enthusiasm | Behavior Modeling | 5.05 |
| Enthusiasm | On-the-Job Training | 4.77 |
| Enthusiasm | Simulation Exercise | 4.64 |

| SKILL | TRAINING METHOD | MEAN |
|---------------------------|-------------------------|------|
| Enthusiasm | Seminar/Workshop | 4.11 |
| Enthusiasm | Wilderness Experiences | 3.91 |
| Enthusiasm | Interactive Video Disc | 2.95 |
| Enthusiasm | Classroom Lecture | 2.90 |
| Enthusiasm | Video Tape | 2.89 |
| Enthusiasm | Computer Based Training | 2.37 |
| Enthusiasm | Correspondence Course | 1.97 |
| Foresight | Mentoring | 5.07 |
| Foresight | Simulation Exercise | 4.80 |
| Foresight | On-the-Job Training | 4.71 |
| Foresight | Behavior Modeling | 4.45 |
| Foresight | Seminar/Workshop | 4.34 |
| Foresight | Wilderness Experiences | 3.69 |
| Foresight | Interactive Video Disc | 3.23 |
| Foresight | Classroom Lecture | 3.10 |
| Foresight | Video Tape | 2.95 |
| Foresight | Computer Based Training | 2.88 |
| Foresight | Correspondence Course | 2.27 |
| Inspiring Subordinates | Mentoring | 5.22 |
| Inspiring Subordinates | Behavior Modeling | 5.13 |
| Inspiring Subordinates | Simulation Exercise | 4.93 |
| Inspiring Subordinates | On-the-Job Training | 4.75 |
| Inspiring Subordinates | Seminar/Workshop | 4.09 |
| Inspiring Subordinates | Wilderness Experiences | 4.05 |
| Inspiring Subordinates | Interactive Video Disc | 3.39 |
| Inspiring Subordinates | Video Tape | 3.24 |
| Inspiring Subordinates | Classroom Lecture | 2.97 |
| Inspiring Subordinates | Computer Based Training | 2.51 |
| Inspiring Subordinates | Correspondence Course | 2.02 |
| Introspection | Mentoring | 5.03 |
| Introspection | Simulation Exercise | 4.70 |
| Introspection | On-the-Job Training | 4.67 |
| Introspection | Behavior Modeling | 4.37 |
| Introspection | Seminar/Workshop | 4.29 |
| Introspection | Wilderness Experiences | 3.78 |
| Introspection | Interactive Video Disc | 3.25 |
| Introspection | Video Tape | 2.99 |
| Introspection | Classroom Lecture | 2.93 |
| Introspection | Computer Based Training | 2.79 |
| Introspection | Correspondence Course | 2.27 |
| Performance Communication | Mentoring | 5.03 |
| Performance Communication | Behavior Modeling | 5.00 |

| SKILL | TRAINING METHOD | MEAN |
|--------------------------------|-------------------------|------|
| Performance Communication | Simulation Exercise | 4.93 |
| Performance Communication | On-the-Job Training | 4.74 |
| Performance Communication | Seminar/Workshop | 4.20 |
| Performance Communication | Wilderness Experiences | 3.55 |
| Performance Communication | Interactive Video Disc | |
| 3.49Performance Communication | Video Tape | |
| 3.27 | | |
| Performance Communication | Classroom Lecture | 3.11 |
| Performance Communication | Computer Based Training | 2.77 |
| Performance Communication | Correspondence Course | 2.18 |
| Planning & Organizing | Simulation Exercise | 5.04 |
| Planning & Organizing | Mentoring | 4.96 |
| Planning & Organizing | On-the-Job Training | 4.76 |
| Planning & Organizing | Behavior Modeling | 4.55 |
| Planning & Organizing | Seminar/Workshop | 4.41 |
| Planning & Organizing | Interactive Video Disc | 3.90 |
| Planning & Organizing | Computer Based Training | 3.66 |
| Planning & Organizing | Classroom Lecture | 3.61 |
| Planning & Organizing | Wilderness Experiences | 3.51 |
| Planning & Organizing | Video Tape | 3.36 |
| Planning & Organizing | Correspondence Course | 2.88 |
| Providing Praise & Recognition | Mentoring | 5.22 |
| Providing Praise & Recognition | Behavior Modeling | 5.13 |
| Providing Praise & Recognition | Simulation Exercise | 5.00 |
| Providing Praise & Recognition | On-the-Job Training | 4.72 |
| Providing Praise & Recognition | Seminar/Workshop | 4.26 |
| Providing Praise & Recognition | Wilderness Experiences | 3.70 |
| Providing Praise & Recognition | Interactive Video Disc | 3.51 |
| Providing Praise & Recognition | Video Tape | 3.19 |
| Providing Praise & Recognition | Classroom Lecture | 3.14 |
| Providing Praise & Recognition | Computer Based Training | 2.85 |
| Providing Praise & Recognition | Correspondence Course | 2.26 |
| Setting Goals | Mentoring | 5.13 |
| Setting Goals | Simulation Exercise | 4.98 |
| Setting Goals | On-the-Job Training | 4.81 |
| Setting Goals | Behavior Modeling | 4.76 |
| Setting Goals | Seminar/Workshop | 4.29 |
| Setting Goals | Wilderness Experiences | 3.84 |
| Setting Goals | Interactive Video Disc | 3.53 |
| Setting Goals | Classroom Lecture | 3.29 |
| Setting Goals | Computer Based Training | 3.22 |
| Setting Goals | Video Tape | 3.01 |
| Setting Goals | Correspondence Course | 2.54 |

Appendix E: Section 1 Results Sorted by Training Method

Effectiveness Rating (Likert Scale 1-6)
Possible Score from 1 to 6

| SKILL | TRAINING METHOD | MEAN |
|--------------------------------|-------------------------|------|
| Inspiring Subordinates | Behavior Modeling | 5.13 |
| Acting Consistently | Behavior Modeling | 5.13 |
| Providing Praise & Recognition | Behavior Modeling | 5.13 |
| Emphasizing Performance | Behavior Modeling | 5.07 |
| Enthusiasm | Behavior Modeling | 5.05 |
| Performance Communication | Behavior Modeling | 5.00 |
| Comm. a Shared Understanding | Behavior Modeling | 4.78 |
| Setting Goals | Behavior Modeling | 4.76 |
| Planning & Organizing | Behavior Modeling | 4.55 |
| Foresight | Behavior Modeling | 4.45 |
| Introspection | Behavior Modeling | 4.37 |
| Planning & Organizing | Classroom Lecture | 3.61 |
| Setting Goals | Classroom Lecture | 3.39 |
| Providing Praise & Recognition | Classroom Lecture | 3.14 |
| Comm. a Shared Understanding | Classroom Lecture | 3.12 |
| Emphasizing Performance | Classroom Lecture | 3.12 |
| Performance Communication | Classroom Lecture | 3.11 |
| Foresight | Classroom Lecture | 3.10 |
| Inspiring Subordinates | Classroom Lecture | 2.97 |
| Introspection | Classroom Lecture | 2.93 |
| Acting Consistently | Classroom Lecture | 2.91 |
| Enthusiasm | Classroom Lecture | 2.90 |
| Planning & Organizing | Computer Based Training | 3.66 |
| Setting Goals | Computer Based Training | 3.22 |
| Foresight | Computer Based Training | 2.88 |
| Providing Praise & Recognition | Computer Based Training | 2.85 |
| Acting Consistently | Computer Based Training | 2.85 |
| Emphasizing Performance | Computer Based Training | 2.83 |
| Introspection | Computer Based Training | 2.79 |
| Comm. a Shared Understanding | Computer Based Training | 2.77 |
| Performance Communication | Computer Based Training | 2.77 |
| Inspiring Subordinates | Computer Based Training | 2.51 |
| Enthusiasm | Computer Based Training | 2.37 |
| Planning & Organizing | Correspondence Course | 2.88 |
| Setting Goals | Correspondence Course | 2.54 |
| Comm. a Shared Understanding | Correspondence Course | 2.27 |
| Foresight | Correspondence Course | 2.27 |

| SKILL | TRAINING METHOD | MEAN |
|--------------------------------|------------------------|------|
| Introspection | Correspondence Course | 2.27 |
| Providing Praise & Recognition | Correspondence Course | 2.26 |
| Acting Consistently | Correspondence Course | 2.20 |
| Emphasizing Performance | Correspondence Course | 2.19 |
| Performance Communication | Correspondence Course | 2.18 |
| Inspiring Subordinates | Correspondence Course | 2.02 |
| Enthusiasm | Correspondence Course | 1.97 |
| Planning & Organizing | Interactive Video Disc | 3.90 |
| Acting Consistently | Interactive Video Disc | 3.76 |
| Setting Goals | Interactive Video Disc | 3.53 |
| Emphasizing Performance | Interactive Video Disc | 3.51 |
| Providing Praise & Recognition | Interactive Video Disc | 3.51 |
| Performance Communication | Interactive Video Disc | 3.49 |
| Inspiring Subordinates | Interactive Video Disc | 3.39 |
| Comm. a Shared Understanding | Interactive Video Disc | 3.31 |
| Introspection | Interactive Video Disc | 3.25 |
| Foresight | Interactive Video Disc | 3.23 |
| Enthusiasm | Interactive Video Disc | 2.95 |
| Providing Praise & Recognition | Mentoring | 5.22 |
| Inspiring Subordinates | Mentoring | 5.22 |
| Emphasizing Performance | Mentoring | 5.17 |
| Acting Consistently | Mentoring | 5.14 |
| Setting Goals | Mentoring | 5.13 |
| Enthusiasm | Mentoring | 5.09 |
| Foresight | Mentoring | 5.07 |
| Introspection | Mentoring | 5.03 |
| Performance Communication | Mentoring | 5.03 |
| Planning & Organizing | Mentoring | 4.96 |
| Comm. a Shared Understanding | Mentoring | 4.95 |
| Setting Goals | On-the-Job Training | 4.81 |
| Emphasizing Performance | On-the-Job Training | 4.77 |
| Enthusiasm | On-the-Job Training | 4.77 |
| Planning & Organizing | On-the-Job Training | 4.76 |
| Inspiring Subordinates | On-the-Job Training | 4.75 |
| Performance Communication | On-the-Job Training | 4.74 |
| Providing Praise & Recognition | On-the-Job Training | 4.72 |
| Acting Consistently | On-the-Job Training | 4.71 |
| Foresight | On-the-Job Training | 4.71 |
| Introspection | On-the-Job Training | 4.67 |
| Comm. a Shared Understanding | On-the-Job Training | 4.66 |
| Planning & Organizing | Seminar/Workshop | 4.41 |
| Setting Goals | Seminar/Workshop | 4.39 |

| SKILL | TRAINING METHOD | MEAN |
|--------------------------------|------------------------|------|
| Foresight | Seminar/Workshop | 4.34 |
| Comm. a Shared Understanding | Seminar/Workshop | 4.34 |
| Introspection | Seminar/Workshop | 4.29 |
| Providing Praise & Recognition | Seminar/Workshop | 4.26 |
| Performance Communication | Seminar/Workshop | 4.20 |
| Enthusiasm | Seminar/Workshop | 4.11 |
| Emphasizing Performance | Seminar/Workshop | 4.11 |
| Inspiring Subordinates | Seminar/Workshop | 4.09 |
| Acting Consistently | Seminar/Workshop | 4.02 |
| Planning & Organizing | Simulation Exercise | 5.04 |
| Comm. a Shared Understanding | Simulation Exercise | 5.01 |
| Providing Praise & Recognition | Simulation Exercise | 5.00 |
| Setting Goals | Simulation Exercise | 4.98 |
| Inspiring Subordinates | Simulation Exercise | 4.93 |
| Performance Communication | Simulation Exercise | 4.93 |
| Acting Consistently | Simulation Exercise | 4.92 |
| Emphasizing Performance | Simulation Exercise | 4.89 |
| Foresight | Simulation Exercise | 4.80 |
| Introspection | Simulation Exercise | 4.70 |
| Enthusiasm | Simulation Exercise | 4.64 |
| Planning & Organizing | Video Tape | 3.36 |
| Acting Consistently | Video Tape | 3.27 |
| Performance Communication | Video Tape | 3.27 |
| Inspiring Subordinates | Video Tape | 3.24 |
| Emphasizing Performance | Video Tape | 3.24 |
| Providing Praise & Recognition | Video Tape | 3.19 |
| Comm. a Shared Understanding | Video Tape | 3.09 |
| Setting Goals | Video Tape | 3.01 |
| Introspection | Video Tape | 2.99 |
| Foresight | Video Tape | 2.95 |
| Enthusiasm | Video Tape | 2.89 |
| Inspiring Subordinates | Wilderness Experiences | 4.05 |
| Emphasizing Performance | Wilderness Experiences | 3.93 |
| Enthusiasm | Wilderness Experiences | 3.91 |
| Comm. a Shared Understanding | Wilderness Experiences | 3.90 |
| Setting Goals | Wilderness Experiences | 3.84 |
| Introspection | Wilderness Experiences | 3.78 |
| Providing Praise & Recognition | Wilderness Experiences | 3.70 |
| Foresight | Wilderness Experiences | 3.69 |
| Planning & Organizing | Wilderness Experiences | 3.59 |
| Performance Communication | Wilderness Experiences | 3.55 |
| Acting Consistently | Wilderness Experiences | 3.32 |

Appendix F: Section 2 Results Sorted by Mean

(Mean Score from Top and Bottom Three Rankings)
Possible Score From -3 to 3

| SKILL | TRAINING METHOD | MEAN |
|--------------------------------|---------------------|------|
| Foresight | Mentoring | 1.61 |
| Acting Consistently | Behavior Modeling | 1.57 |
| Acting Consistently | Mentoring | 1.51 |
| Introspection | Mentoring | 1.49 |
| Enthusiasm | Mentoring | 1.49 |
| Inspiring Subordinates | Mentoring | 1.45 |
| Providing Praise & Recognition | Behavior Modeling | 1.44 |
| Emphasizing Performance | Mentoring | 1.43 |
| Enthusiasm | Behavior Modeling | 1.42 |
| Comm. a Shared Understanding | Simulation Exercise | 1.41 |
| Planning & Organizing | Simulation Exercise | 1.37 |
| Providing Praise & Recognition | Mentoring | 1.37 |
| Performance Communication | Mentoring | 1.35 |
| Inspiring Subordinates | Behavior Modeling | 1.34 |
| Setting Goals | Simulation Exercise | 1.30 |
| Performance Communication | Behavior Modeling | 1.28 |
| Performance Communication | Simulation Exercise | 1.24 |
| Emphasizing Performance | Behavior Modeling | 1.24 |
| Setting Goals | Mentoring | 1.24 |
| Providing Praise & Recognition | Simulation Exercise | 1.24 |
| Comm. a Shared Understanding | Mentoring | 1.23 |
| Foresight | Simulation Exercise | 1.18 |
| Acting Consistently | Simulation Exercise | 1.15 |
| Emphasizing Performance | Simulation Exercise | 1.14 |
| Introspection | Simulation Exercise | 1.10 |
| Comm. a Shared Understanding | Behavior Modeling | 1.03 |
| Planning & Organizing | Mentoring | 1.02 |
| Inspiring Subordinates | Simulation Exercise | 0.95 |
| Foresight | On-the-Job Training | 0.93 |
| Emphasizing Performance | On-the-Job Training | 0.91 |
| Enthusiasm | Simulation Exercise | 0.90 |
| Enthusiasm | On-the-Job Training | 0.89 |
| Inspiring Subordinates | On-the-Job Training | 0.86 |
| Comm. a Shared Understanding | On-the-Job Training | 0.84 |
| Setting Goals | On-the-Job Training | 0.82 |
| Acting Consistently | On-the-Job Training | 0.80 |
| Planning & Organizing | On-the-Job Training | 0.80 |
| Setting Goals | Behavior Modeling | 0.78 |
| Providing Praise & Recognition | On-the-Job Training | 0.76 |
| Introspection | On-the-Job Training | 0.76 |

| SKILL | TRAINING METHOD | MEAN |
|--------------------------------|-------------------------|-------|
| Foresight | Behavior Modeling | 0.74 |
| Introspection | Behavior Modeling | 0.74 |
| Performance Communication | On-the-Job Training | 0.72 |
| Setting Goals | Seminar/Workshop | 0.65 |
| Planning & Organizing | Seminar/Workshop | 0.61 |
| Planning & Organizing | Behavior Modeling | 0.60 |
| Comm. a Shared Understanding | Seminar/Workshop | 0.57 |
| Introspection | Seminar/Workshop | 0.51 |
| Foresight | Seminar/Workshop | 0.44 |
| Performance Communication | Seminar/Workshop | 0.41 |
| Enthusiasm | Seminar/Workshop | 0.34 |
| Providing Praise & Recognition | Seminar/Workshop | 0.33 |
| Emphasizing Performance | Seminar/Workshop | 0.25 |
| Inspiring Subordinates | Seminar/Workshop | 0.20 |
| Acting Consistently | Seminar/Workshop | 0.14 |
| Inspiring Subordinates | Wilderness Experiences | 0.08 |
| Emphasizing Performance | Wilderness Experiences | -0.01 |
| Enthusiasm | Wilderness Experiences | -0.02 |
| Introspection | Wilderness Experiences | -0.03 |
| Acting Consistently | Interactive Video Disk | -0.10 |
| Comm. a Shared Understanding | Wilderness Experiences | -0.10 |
| Inspiring Subordinates | Interactive Video Disk | -0.13 |
| Foresight | Wilderness Experiences | -0.16 |
| Introspection | Interactive Video Disk | -0.18 |
| Planning & Organizing | Interactive Video Disk | -0.20 |
| Foresight | Interactive Video Disk | -0.20 |
| Setting Goals | Wilderness Experiences | -0.22 |
| Performance Communication | Interactive Video Disk | -0.22 |
| Providing Praise & Recognition | Interactive Video Disk | -0.26 |
| Comm. a Shared Understanding | Interactive Video Disk | -0.26 |
| Enthusiasm | Interactive Video Disk | -0.28 |
| Providing Praise & Recognition | Wilderness Experiences | -0.30 |
| Emphasizing Performance | Interactive Video Disk | -0.30 |
| Setting Goals | Interactive Video Disk | -0.33 |
| Performance Communication | Wilderness Experiences | -0.38 |
| Planning & Organizing | Wilderness Experiences | -0.45 |
| Setting Goals | Classroom Lecture | -0.45 |
| Planning & Organizing | Classroom Lecture | -0.46 |
| Planning & Organizing | Computer Based Training | -0.51 |
| Performance Communication | Classroom Lecture | -0.53 |
| Enthusiasm | Video Tape | -0.58 |
| Acting Consistently | Video Tape | -0.59 |
| Inspiring Subordinates | Video Tape | -0.60 |
| Foresight | Classroom Lecture | -0.61 |
| Comm. a Shared Understanding | Classroom Lecture | -0.61 |
| Emphasizing Performance | Classroom Lecture | -0.62 |

| SKILL | TRAINING METHOD | MEAN |
|--------------------------------|-------------------------|-------|
| Enthusiasm | Classroom Lecture | -0.63 |
| Inspiring Subordinates | Classroom Lecture | -0.67 |
| Performance Communication | Video Tape | -0.68 |
| Acting Consistently | Wilderness Experiences | -0.70 |
| Introspection | Classroom Lecture | -0.72 |
| Providing Praise & Recognition | Video Tape | -0.75 |
| Introspection | Video Tape | -0.76 |
| Providing Praise & Recognition | Classroom Lecture | -0.77 |
| Emphasizing Performance | Video Tape | -0.78 |
| Acting Consistently | Classroom Lecture | -0.78 |
| Acting Consistently | Computer Based Training | -0.85 |
| Introspection | Computer Based Training | -0.85 |
| Comm. a Shared Understanding | Video Tape | -0.86 |
| Setting Goals | Computer Based Training | -0.87 |
| Foresight | Computer Based Training | -0.91 |
| Foresight | Video Tape | -0.91 |
| Setting Goals | Video Tape | -0.97 |
| Planning & Organizing | Video Tape | -0.98 |
| Performance Communication | Computer Based Training | -1.01 |
| Providing Praise & Recognition | Computer Based Training | -1.01 |
| Emphasizing Performance | Computer Based Training | -1.03 |
| Comm. a Shared Understanding | Computer Based Training | -1.11 |
| Inspiring Subordinates | Computer Based Training | -1.22 |
| Enthusiasm | Computer Based Training | -1.30 |
| Planning & Organizing | Correspondence Course | -1.80 |
| Setting Goals | Correspondence Course | -1.95 |
| Introspection | Correspondence Course | -2.03 |
| Providing Praise & Recognition | Correspondence Course | -2.05 |
| Foresight | Correspondence Course | -2.12 |
| Comm. a Shared Understanding | Correspondence Course | -2.13 |
| Acting Consistently | Correspondence Course | -2.15 |
| Inspiring Subordinates | Correspondence Course | -2.17 |
| Performance Communication | Correspondence Course | -2.20 |
| Emphasizing Performance | Correspondence Course | -2.23 |
| Enthusiasm | Correspondence Course | -2.24 |

Appendix G: Section 2 Results Sorted by Skill

(Mean Score from Top and Bottom Three Rankings)
Possible Score From -3 to 3

| SKILL | TRAINING METHOD | MEAN |
|------------------------------|-------------------------|-------|
| Acting Consistently | Behavior Modeling | 1.57 |
| Acting Consistently | Mentoring | 1.51 |
| Acting Consistently | Simulation Exercise | 1.15 |
| Acting Consistently | On-the-Job Training | 0.80 |
| Acting Consistently | Seminar/Workshop | 0.14 |
| Acting Consistently | Interactive Video Disk | -0.10 |
| Acting Consistently | Video Tape | -0.59 |
| Acting Consistently | Wilderness Experiences | -0.70 |
| Acting Consistently | Classroom Lecture | -0.78 |
| Acting Consistently | Computer Based Training | -0.85 |
| Acting Consistently | Correspondence Course | -2.15 |
| Comm. a Shared Understanding | Simulation Exercise | 1.41 |
| Comm. a Shared Understanding | Mentoring | 1.23 |
| Comm. a Shared Understanding | Behavior Modeling | 1.03 |
| Comm. a Shared Understanding | On-the-Job Training | 0.84 |
| Comm. a Shared Understanding | Seminar/Workshop | 0.57 |
| Comm. a Shared Understanding | Wilderness Experiences | -0.10 |
| Comm. a Shared Understanding | Interactive Video Disk | -0.26 |
| Comm. a Shared Understanding | Classroom Lecture | -0.61 |
| Comm. a Shared Understanding | Video Tape | -0.86 |
| Comm. a Shared Understanding | Computer Based Training | -1.11 |
| Comm. a Shared Understanding | Correspondence Course | -2.13 |
| Emphasizing Performance | Mentoring | 1.43 |
| Emphasizing Performance | Behavior Modeling | 1.24 |
| Emphasizing Performance | Simulation Exercise | 1.14 |
| Emphasizing Performance | On-the-Job Training | 0.91 |
| Emphasizing Performance | Seminar/Workshop | 0.25 |
| Emphasizing Performance | Wilderness Experiences | -0.01 |
| Emphasizing Performance | Interactive Video Disk | -0.30 |
| Emphasizing Performance | Classroom Lecture | -0.62 |
| Emphasizing Performance | Video Tape | -0.78 |
| Emphasizing Performance | Computer Based Training | -1.03 |
| Emphasizing Performance | Correspondence Course | -2.23 |
| Enthusiasm | Mentoring | 1.49 |
| Enthusiasm | Behavior Modeling | 1.42 |
| Enthusiasm | Simulation Exercise | 0.90 |
| Enthusiasm | On-the-Job Training | 0.89 |

| SKILL | TRAINING METHOD | MEAN |
|---------------------------|-------------------------|-------|
| Enthusiasm | Seminar/Workshop | 0.34 |
| Enthusiasm | Wilderness Experiences | -0.02 |
| Enthusiasm | Interactive Video Disk | -0.28 |
| Enthusiasm | Video Tape | -0.58 |
| Enthusiasm | Classroom Lecture | -0.63 |
| Enthusiasm | Computer Based Training | -1.30 |
| Enthusiasm | Correspondence Course | -2.24 |
| Foresight | Mentoring | 1.61 |
| Foresight | Simulation Exercise | 1.18 |
| Foresight | On-the-Job Training | 0.93 |
| Foresight | Behavior Modeling | 0.74 |
| Foresight | Seminar/Workshop | 0.44 |
| Foresight | Wilderness Experiences | -0.16 |
| Foresight | Interactive Video Disk | -0.20 |
| Foresight | Classroom Lecture | -0.61 |
| Foresight | Video Tape | -0.91 |
| Foresight | Computer Based Training | -0.91 |
| Foresight | Correspondence Course | -2.12 |
| Inspiring Subordinates | Mentoring | 1.45 |
| Inspiring Subordinates | Behavior Modeling | 1.34 |
| Inspiring Subordinates | Simulation Exercise | 0.95 |
| Inspiring Subordinates | On-the-Job Training | 0.86 |
| Inspiring Subordinates | Seminar/Workshop | 0.20 |
| Inspiring Subordinates | Wilderness Experiences | 0.08 |
| Inspiring Subordinates | Interactive Video Disk | -0.13 |
| Inspiring Subordinates | Video Tape | -0.60 |
| Inspiring Subordinates | Classroom Lecture | -0.67 |
| Inspiring Subordinates | Computer Based Training | -1.23 |
| Inspiring Subordinates | Correspondence Course | -2.17 |
| Introspection | Mentoring | 1.49 |
| Introspection | Simulation Exercise | 1.10 |
| Introspection | On-the-Job Training | 0.76 |
| Introspection | Behavior Modeling | 0.74 |
| Introspection | Seminar/Workshop | 0.51 |
| Introspection | Wilderness Experiences | -0.05 |
| Introspection | Interactive Video Disk | -0.18 |
| Introspection | Classroom Lecture | -0.72 |
| Introspection | Video Tape | -0.76 |
| Introspection | Computer Based Training | -0.85 |
| Introspection | Correspondence Course | -2.03 |
| Performance Communication | Mentoring | 1.35 |
| Performance Communication | Behavior Modeling | 1.28 |

| SKILL | TRAINING METHOD | MEAN |
|--------------------------------|-------------------------|-------|
| Performance Communication | Simulation Exercise | 1.24 |
| Performance Communication | On-the-Job Training | 0.72 |
| Performance Communication | Seminar/Workshop | 0.41 |
| Performance Communication | Interactive Video Disk | -0.22 |
| Performance Communication | Wilderness Experiences | -0.38 |
| Performance Communication | Classroom Lecture | -0.53 |
| Performance Communication | Video Tape | -0.68 |
| Performance Communication | Computer Based Training | -1.01 |
| Performance Communication | Correspondence Course | -2.20 |
| Planning & Organizing | Simulation Exercise | 1.37 |
| Planning & Organizing | Mentoring | 1.02 |
| Planning & Organizing | On-the-Job Training | 0.80 |
| Planning & Organizing | Seminar/Workshop | 0.61 |
| Planning & Organizing | Behavior Modeling | 0.60 |
| Planning & Organizing | Interactive Video Disk | -0.20 |
| Planning & Organizing | Wilderness Experiences | -0.45 |
| Planning & Organizing | Classroom Lecture | -0.46 |
| Planning & Organizing | Computer Based Training | -0.51 |
| Planning & Organizing | Video Tape | -0.98 |
| Planning & Organizing | Correspondence Course | -1.80 |
| Providing Praise & Recognition | Behavior Modeling | 1.44 |
| Providing Praise & Recognition | Mentoring | 1.37 |
| Providing Praise & Recognition | Simulation Exercise | 1.24 |
| Providing Praise & Recognition | On-the-Job Training | 0.76 |
| Providing Praise & Recognition | Seminar/Workshop | 0.33 |
| Providing Praise & Recognition | Interactive Video Disk | -0.26 |
| Providing Praise & Recognition | Wilderness Experiences | -0.30 |
| Providing Praise & Recognition | Video Tape | -0.75 |
| Providing Praise & Recognition | Classroom Lecture | -0.77 |
| Providing Praise & Recognition | Computer Based Training | -1.01 |
| Providing Praise & Recognition | Correspondence Course | -2.05 |
| Setting Goals | Simulation Exercise | 1.30 |
| Setting Goals | Mentoring | 1.24 |
| Setting Goals | On-the-Job Training | 0.82 |
| Setting Goals | Behavior Modeling | 0.78 |
| Setting Goals | Seminar/Workshop | 0.65 |
| Setting Goals | Wilderness Experiences | -0.22 |
| Setting Goals | Interactive Video Disk | -0.33 |
| Setting Goals | Classroom Lecture | -0.45 |
| Setting Goals | Computer Based Training | -0.87 |
| Setting Goals | Video Tape | -0.97 |
| Setting Goals | Correspondence Course | -1.95 |

Appendix H: Section 2 Results Sorted by Training Method

(Mean Score from Top and Bottom Three Rankings)
Possible Score From -3 to 3

| SKILL | TRAINING METHOD | MEAN |
|--------------------------------|-------------------------|-------|
| Acting Consistently | Behavior Modeling | 1.57 |
| Providing Praise & Recognition | Behavior Modeling | 1.44 |
| Enthusiasm | Behavior Modeling | 1.42 |
| Inspiring Subordinates | Behavior Modeling | 1.34 |
| Performance Communication | Behavior Modeling | 1.28 |
| Emphasizing Performance | Behavior Modeling | 1.24 |
| Comm. a Shared Understanding | Behavior Modeling | 1.03 |
| Setting Goals | Behavior Modeling | 0.78 |
| Foresight | Behavior Modeling | 0.74 |
| Introspection | Behavior Modeling | 0.74 |
| Planning & Organizing | Behavior Modeling | 0.60 |
| Setting Goals | Classroom Lecture | -0.45 |
| Planning & Organizing | Classroom Lecture | -0.46 |
| Performance Communication | Classroom Lecture | -0.53 |
| Foresight | Classroom Lecture | -0.61 |
| Comm. a Shared Understanding | Classroom Lecture | -0.61 |
| Emphasizing Performance | Classroom Lecture | -0.62 |
| Enthusiasm | Classroom Lecture | -0.63 |
| Inspiring Subordinates | Classroom Lecture | -0.67 |
| Introspection | Classroom Lecture | -0.72 |
| Providing Praise & Recognition | Classroom Lecture | -0.77 |
| Acting Consistently | Classroom Lecture | -0.78 |
| Planning & Organizing | Computer Based Training | -0.51 |
| Introspection | Computer Based Training | -0.85 |
| Acting Consistently | Computer Based Training | -0.85 |
| Setting Goals | Computer Based Training | -0.87 |
| Foresight | Computer Based Training | -0.91 |
| Performance Communication | Computer Based Training | -1.01 |
| Providing Praise & Recognition | Computer Based Training | -1.01 |
| Emphasizing Performance | Computer Based Training | -1.03 |
| Comm. a Shared Understanding | Computer Based Training | -1.11 |
| Inspiring Subordinates | Computer Based Training | -1.23 |
| Enthusiasm | Computer Based Training | -1.30 |
| Planning & Organizing | Correspondence Course | -1.30 |
| Setting Goals | Correspondence Course | -1.95 |
| Introspection | Correspondence Course | -2.03 |
| Providing Praise & Recognition | Correspondence Course | -2.05 |

| SKILL | TRAINING METHOD | MEAN |
|--------------------------------|------------------------|-------|
| Foresight | Correspondence Course | -2.12 |
| Comm. a Shared Understanding | Correspondence Course | -2.13 |
| Acting Consistently | Correspondence Course | -2.15 |
| Inspiring Subordinates | Correspondence Course | -2.17 |
| Performance Communication | Correspondence Course | -2.20 |
| Emphasizing Performance | Correspondence Course | -2.23 |
| Enthusiasm | Correspondence Course | -2.24 |
| Acting Consistently | Interactive Video Disk | -0.10 |
| Inspiring Subordinates | Interactive Video Disk | -0.13 |
| Introspection | Interactive Video Disk | -0.18 |
| Planning & Organizing | Interactive Video Disk | -0.20 |
| Foresight | Interactive Video Disk | -0.20 |
| Performance Communication | Interactive Video Disk | -0.22 |
| Providing Praise & Recognition | Interactive Video Disk | -0.26 |
| Comm. a Shared Understanding | Interactive Video Disk | -0.26 |
| Enthusiasm | Interactive Video Disk | -0.28 |
| Emphasizing Performance | Interactive Video Disk | -0.30 |
| Setting Goals | Interactive Video Disk | -0.33 |
| Foresight | Mentoring | 1.61 |
| Acting Consistently | Mentoring | 1.51 |
| Enthusiasm | Mentoring | 1.49 |
| Introspection | Mentoring | 1.49 |
| Inspiring Subordinates | Mentoring | 1.45 |
| Emphasizing Performance | Mentoring | 1.43 |
| Providing Praise & Recognition | Mentoring | 1.37 |
| Performance Communication | Mentoring | 1.35 |
| Setting Goals | Mentoring | 1.24 |
| Comm. a Shared Understanding | Mentoring | 1.23 |
| Planning & Organizing | Mentoring | 1.02 |
| Foresight | On-the-Job Training | 0.93 |
| Emphasizing Performance | On-the-Job Training | 0.91 |
| Enthusiasm | On-the-Job Training | 0.89 |
| Inspiring Subordinates | On-the-Job Training | 0.86 |
| Comm. a Shared Understanding | On-the-Job Training | 0.84 |
| Setting Goals | On-the-Job Training | 0.82 |
| Planning & Organizing | On-the-Job Training | 0.80 |
| Acting Consistently | On-the-Job Training | 0.80 |
| Providing Praise & Recognition | On-the-Job Training | 0.76 |
| Introspection | On-the-Job Training | 0.76 |
| Performance Communication | On-the-Job Training | 0.72 |

| SKILL | TRAINING METHOD | MEAN |
|--------------------------------|------------------------|-------|
| Setting Goals | Seminar/Workshop | 0.65 |
| Planning & Organizing | Seminar/Workshop | 0.61 |
| Comm. a Shared Understanding | Seminar/Workshop | 0.57 |
| Introspection | Seminar/Workshop | 0.51 |
| Foresight | Seminar/Workshop | 0.44 |
| Performance Communication | Seminar/Workshop | 0.41 |
| Enthusiasm | Seminar/Workshop | 0.34 |
| Providing Praise & Recognition | Seminar/Workshop | 0.33 |
| Emphasizing Performance | Seminar/Workshop | 0.25 |
| Inspiring Subordinates | Seminar/Workshop | 0.20 |
| Acting Consistently | Seminar/Workshop | 0.14 |
| Comm. a Shared Understanding | Simulation Exercise | 1.41 |
| Planning & Organizing | Simulation Exercise | 1.37 |
| Setting Goals | Simulation Exercise | 1.30 |
| Performance Communication | Simulation Exercise | 1.24 |
| Providing Praise & Recognition | Simulation Exercise | 1.24 |
| Foresight | Simulation Exercise | 1.16 |
| Acting Consistently | Simulation Exercise | 1.15 |
| Emphasizing Performance | Simulation Exercise | 1.14 |
| Introspection | Simulation Exercise | 1.10 |
| Inspiring Subordinates | Simulation Exercise | 0.95 |
| Enthusiasm | Simulation Exercise | 0.90 |
| Enthusiasm | Video Tape | -0.58 |
| Acting Consistently | Video Tape | -0.59 |
| Inspiring Subordinates | Video Tape | -0.60 |
| Performance Communication | Video Tape | -0.68 |
| Providing Praise & Recognition | Video Tape | -0.75 |
| Introspection | Video Tape | -0.76 |
| Emphasizing Performance | Video Tape | -0.78 |
| Comm. a Shared Understanding | Video Tape | -0.86 |
| Foresight | Video Tape | -0.91 |
| Setting Goals | Video Tape | -0.97 |
| Planning & Organizing | Video Tape | -0.98 |
| Inspiring Subordinates | Wilderness Experiences | 0.08 |
| Emphasizing Performance | Wilderness Experiences | -0.01 |
| Enthusiasm | Wilderness Experiences | -0.02 |
| Introspection | Wilderness Experiences | -0.05 |
| Comm. a Shared Understanding | Wilderness Experiences | -0.10 |
| Foresight | Wilderness Experiences | -0.16 |
| Setting Goals | Wilderness Experiences | -0.22 |
| Providing Praise & Recognition | Wilderness Experiences | -0.30 |
| Performance Communication | Wilderness Experiences | -0.38 |
| Planning & Organizing | Wilderness Experiences | -0.45 |
| Acting Consistently | Wilderness Experiences | -0.70 |

Appendix I: Analysis of Variance Procedure
for Section 1 by Skill

Analysis of Variance for Acting Consistently

Class Level Information

Class Levels Values

TNGMETHOD 3 B M S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 4.7894737 | 2.3947368 | 2.95 | 0.0531 |
| Error | 453 | 367.2368421 | 0.8106774 | | |
| Corrected Total | 455 | 372.0263158 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.012874 | 17.77366 | 0.9004 | 5.0658 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|-----------|----|-----------|-------------|---------|--------|
| TNGMETHOD | 2 | 4.7894737 | 2.3947368 | 2.95 | 0.0531 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 0.810677

Critical Value of T= 1.97

Least Significant Difference= 0.203

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHOD |
|------------|--------|-----|-------------------------|
| A | 5.1447 | 152 | M = Mentoring |
| A | | | |
| A | 5.1316 | 152 | B = Behavior Modeling |
| | | | |
| B | 4.9211 | 152 | S = Simulation Exercise |

Analysis of Variance for Communicating a Shared Understanding

Class Level Information

Class Levels Values

TNGMETHOD 3 B M S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 4.0833333 | 2.0416667 | 2.02 | 0.1342 |
| Error | 453 | 458.4078947 | 1.0119380 | | |
| Corrected Total | 455 | 462.4912281 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.008829 | 20.47829 | 1.0060 | 4.9123 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|-----------|----|-----------|-------------|---------|--------|
| TNGMETHOD | 2 | 4.0833333 | 2.0416667 | 2.02 | 0.1342 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.011938

Critical Value of T= 1.97

Least Significant Difference= 0.2268

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHOD |
|------------|--------|-----|-------------------------|
| A | 5.0066 | 152 | S = Simulation Exercise |
| A | | | |
| A | 4.9474 | 152 | M = Mentoring |
| A | | | |
| A | 4.7829 | 152 | B = Behavior Modeling |

Analysis of Variance for Emphasizing Performance

Class Level Information

Class Levels Values

TNGMETHOD 3 B M S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 6.2149123 | 3.1074561 | 3.29 | 0.0382 |
| Error | 453 | 427.9934211 | 0.9447978 | | |
| Corrected Total | 455 | 434.2083333 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.014313 | 19.27948 | 0.9720 | 5.0417 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|-----------|----|-----------|-------------|---------|--------|
| TNGMETHOD | 2 | 6.2149123 | 3.1074561 | 3.29 | 0.0382 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 0.944798
Critical Value of T= 1.97
Least Significant Difference= 0.2191

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHOD |
|------------|--------|-----|-------------------------|
| A | 5.1711 | 152 | M = Mentoring |
| A | | | |
| B | 5.0658 | 152 | B = Behavior Modeling |
| B | | | |
| B | 4.9982 | 152 | S = Simulation Exercise |

Analysis of Variance for Enthusiasm

Class Level Information

Class Levels Values

TNGMETHOD 3 B M O

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 9.3991228 | 4.6995614 | 3.99 | 0.0191 |
| Error | 453 | 533.2302632 | 1.1771087 | | |
| Corrected Total | 455 | 542.6293860 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.017321 | 21.82336 | 1.0849 | 4.9715 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|-----------|----|-----------|-------------|---------|--------|
| TNGMETHOD | 2 | 9.3991228 | 4.6995614 | 3.99 | 0.0191 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.177109
Critical Value of T= 1.97
Least Significant Difference= 0.2446

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHOD |
|------------|--------|-----|-------------------------|
| A | 5.0921 | 152 | M = Mentoring |
| A | | | |
| A | 5.0526 | 152 | B = Behavior Modeling |
| B | 4.7697 | 152 | O = On-the-Job-Training |

Analysis of Variance for Foresight

Class Level Information

Class Levels Values

TNGMETHD 3 M O S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 10.451754 | 5.225877 | 5.00 | 0.0071 |
| Error | 453 | 473.282895 | 1.044775 | | |
| Corrected Total | 455 | 483.734649 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.021606 | 21.04275 | 1.0221 | 4.8575 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|----------|----|-----------|-------------|---------|--------|
| TNGMETHD | 2 | 10.451754 | 5.225877 | 5.00 | 0.0071 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.044775
Critical Value of T= 1.97
Least Significant Difference= 0.2304

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHD |
|------------|--------|-----|-------------------------|
| A | 5.0658 | 152 | M = Mentoring |
| B | 4.7961 | 152 | S = Simulation Exercise |
| B | 4.7105 | 152 | O = On-the-Job-Training |

Analysis of Variance for Inspiring Subordinates

Class Level Information

Class Levels Values

TNGMETHD 3 B M S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 6.7236842 | 3.3618421 | 3.87 | 0.0215 |
| Error | 453 | 393.4078947 | 0.8684501 | | |
| Corrected Total | 455 | 400.1315789 | | | |

| | | | |
|----------|----------|----------|----------|
| R-Square | C.V. | Root MSE | EFF Mean |
| 0.016804 | 18.30101 | 0.9319 | 5.0921 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|----------|----|-----------|-------------|---------|--------|
| TNGMETHD | 2 | 6.7236842 | 3.3618421 | 3.87 | 0.0215 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 0.86845
Critical Value of T= 1.97
Least Significant Difference= 0.2101

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHD |
|------------|--------|-----|-------------------------|
| A | 5.2171 | 152 | M = Mentoring |
| A | | | |
| B | 5.1316 | 152 | B = Behavior Modeling |
| B | | | |
| B | 4.9276 | 152 | S = Simulation Exercise |

Analysis of Variance for Introspection

Class Level Information

Class Levels Values

TNGMETHD 3 M O S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 12.171053 | 6.085526 | 5.53 | 0.0042 |
| Error | 453 | 498.065789 | 1.099483 | | |
| Corrected Total | 455 | 510.236842 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.023854 | 21.83308 | 1.0486 | 4.8026 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|----------|----|-----------|-------------|---------|--------|
| TNGMETHD | 2 | 12.171053 | 6.085526 | 5.53 | 0.0042 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.099483

Critical Value of T= 1.97

Least Significant Difference= 0.2364

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHD |
|------------|--------|-----|-------------------------|
| A | 5.0329 | 152 | M = Mentoring |
| B | 4.7039 | 152 | S = Simulation Exercise |
| B | 4.6711 | 152 | O = On-the-Job-Training |

Analysis of Variance for Performance Communication

Class Level Information

Class Levels Values

TNGMETHD 3 B M S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 0.7938596 | 0.3969298 | 0.40 | 0.6673 |
| Error | 453 | 444.0986842 | 0.9803503 | | |
| Corrected Total | 455 | 444.8925439 | | | |

R-Square C.V. Root MSE EFF Mean
0.001784 19.86351 0.9901 4.9846

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|----------|----|-----------|-------------|---------|--------|
| TNGMETHD | 2 | 0.7938596 | 0.3969298 | 0.40 | 0.6673 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 0.98035
Critical Value of T= 1.97
Least Significant Difference= 0.2232

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHD |
|------------|--------|-----|-------------------------|
| A | 5.0263 | 152 | M = Mentoring |
| A | | | |
| A | 5.0000 | 152 | B = Behavior Modeling |
| A | | | |
| A | 4.9276 | 152 | S = Simulation Exercise |

Analysis of Variance for Planning and Organizing

Class Level Information

Class Levels Values

TNGMETHD 3 M O S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 6.1578947 | 3.0789474 | 2.70 | 0.0684 |
| Error | 453 | 517.0000000 | 1.1412804 | | |
| Corrected Total | 455 | 523.1578947 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.011771 | 21.70892 | 1.0683 | 4.9211 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|----------|----|-----------|-------------|---------|--------|
| TNGMETHD | 2 | 6.1578947 | 3.0789474 | 2.70 | 0.0684 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.14128
Critical Value of T= 1.97
Least Significant Difference= 0.2408

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHD |
|------------|--------|-----|-------------------------|
| A | 5.0395 | 152 | S = Simulation Exercise |
| A | | | |
| B | 4.9605 | 152 | M = Mentoring |
| B | | | |
| B | 4.7632 | 152 | O = On-the-Job-Training |

Analysis of Variance for Providing Praise and Recognition

Class Level Information

Class Levels Values

TNGMETHOD 3 B M S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 3.8201754 | 1.9100877 | 2.34 | 0.0970 |
| Error | 453 | 369.0197368 | 0.8146131 | | |
| Corrected Total | 455 | 372.8399123 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.010246 | 17.64111 | 0.9026 | 5.1162 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|-----------|----|-----------|-------------|---------|--------|
| TNGMETHOD | 2 | 3.8201754 | 1.9100877 | 2.34 | 0.0970 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 0.814613

Critical Value of T= 1.97

Least Significant Difference= 0.2035

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHOD |
|------------|--------|-----|-------------------------|
| A | 5.2237 | 152 | M = Mentoring |
| A | | | |
| B | 5.1250 | 152 | B = Behavior Modeling |
| B | | | |
| B | 5.0000 | 152 | S = Simulation Exercise |

Analysis of Variance for Setting Goals

Class Level Information

Class Levels Values

TNGMETHD 3 M O S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 7.9078947 | 3.9539474 | 4.15 | 0.0164 |
| Error | 453 | 431.7763158 | 0.9531486 | | |
| Corrected Total | 455 | 439.6842105 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.017985 | 19.62918 | 0.9763 | 4.9737 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|----------|----|-----------|-------------|---------|--------|
| TNGMETHD | 2 | 7.9078947 | 3.9539474 | 4.15 | 0.0164 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 0.953149
Critical Value of T= 1.97
Least Significant Difference= 0.2201

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHD |
|------------|--------|-----|-------------------------|
| A | 5.1316 | 152 | M = Mentoring |
| A | | | |
| B | 4.9803 | 152 | S = Simulation Exercise |
| E | | | |
| E | 4.8092 | 152 | O = On-the-Job-Training |

Appendix J: Analysis of Variance Procedure
for Section 2 by Skill

Analysis of Variance for Acting Consistently

Class Level Information

| | | |
|----------|--------|--------|
| Class | Levels | Values |
| TNGMETHD | 3 | B M S |

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 15.596491 | 7.798246 | 5.22 | 0.0057 |
| Error | 453 | 676.717105 | 1.493857 | | |
| Corrected Total | 455 | 692.313596 | | | |

| | | | |
|----------|----------|----------|----------|
| R-Square | C.V. | Root MSE | EFF Mean |
| 0.022528 | 86.67789 | 1.2222 | 1.4101 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|----------|----|-----------|-------------|---------|--------|
| TNGMETHD | 2 | 15.596491 | 7.798246 | 5.22 | 0.0057 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.493857
Critical Value of T= 1.97
Least Significant Difference= 0.2755

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHD |
|------------|--------|-----|-------------------------|
| A | 1.5724 | 152 | B = Behavior Modeling |
| A | | | |
| A | 1.5066 | 152 | M = Mentoring |
| | | | |
| B | 1.1513 | 152 | S = Simulation Exercise |

Analysis of Variance for Communicating a Shared Understanding

Class Level Information

Class Levels Values

TNGMETHOD 3 B M S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 10.697368 | 5.348684 | 3.48 | 0.0317 |
| Error | 453 | 696.486842 | 1.537499 | | |
| Corrected Total | 455 | 707.184211 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.015127 | 101.3300 | 1.2400 | 1.2237 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|-----------|----|-----------|-------------|---------|--------|
| TNGMETHOD | 2 | 10.697368 | 5.348684 | 3.48 | 0.0317 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.537499
Critical Value of T= 1.97
Least Significant Difference= 0.2795

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHOD |
|------------|--------|-----|-------------------------|
| A | 1.4079 | 152 | S = Simulation Exercise |
| A | | | |
| B | 1.2303 | 152 | M = Mentoring |
| B | | | |
| B | 1.0329 | 152 | B = Behavior Modeling |

Analysis of Variance for Emphasizing Performance

Class Level Information

Class Levels Values

TNGMETHD 3 B M S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 6.5263158 | 3.2631579 | 1.99 | 0.1373 |
| Error | 453 | 741.2960526 | 1.6364151 | | |
| Corrected Total | 455 | 747.8223684 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.008727 | 100.7472 | 1.2792 | 1.2697 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|----------|----|-----------|-------------|---------|--------|
| TNGMETHD | 2 | 6.5263158 | 3.2631579 | 1.99 | 0.1373 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.636415

Critical Value of T= 1.97

Least Significant Difference= 0.2884

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHD |
|------------|--------|-----|-------------------------|
| A | 1.4276 | 152 | M = Mentoring |
| A | | | |
| B | 1.2434 | 152 | B = Behavior Modeling |
| B | | | |
| S | 1.1382 | 152 | S = Simulation Exercise |

Analysis of Variance for Enthusiasm

Class Level Information

Class Levels Values

TNGMETHD 3 B M O

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 32.017544 | 16.008772 | 9.63 | 0.0001 |
| Error | 453 | 753.342105 | 1.663007 | | |
| Corrected Total | 455 | 785.359649 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.040768 | 101.7382 | 1.2896 | 1.2675 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|----------|----|-----------|-------------|---------|--------|
| TNGMETHD | 2 | 32.017544 | 16.008772 | 9.63 | 0.0001 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.663007
Critical Value of T= 1.97
Least Significant Difference= 0.2907

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHD |
|------------|--------|-----|-------------------------|
| A | 1.4868 | 152 | M = Mentoring |
| A | | | |
| A | 1.4211 | 152 | B = Behavior Modeling |
| B | 0.8947 | 152 | O = On-the-Job-Training |

Analysis of Variance for Foresight

Class Level Information

Class Levels Values

TNGMETHD 3 M O S

Number of observations in data set = 456

Analysis of Variance Procedure

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 35.083333 | 17.541667 | 10.74 | 0.0001 |
| Error | 453 | 739.861842 | 1.633249 | | |
| Corrected Total | 455 | 774.945175 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.045272 | 103.1437 | 1.2780 | 1.2390 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|----------|----|-----------|-------------|---------|--------|
| TNGMETHD | 2 | 35.083333 | 17.541667 | 10.74 | 0.0001 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.633249
Critical Value of T= 1.97
Least Significant Difference= 0.2881

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHD |
|------------|--------|-----|-------------------------|
| A | 1.6053 | 152 | M = Mentoring |
| B | 1.1776 | 152 | S = Simulation Exercise |
| B | 0.9342 | 152 | O = On-the-Job-Training |

Analysis of Variance for Insiring Subordinates

Class Level Information

Class Levels Values

TNGMETHD 3 B M S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 20.754386 | 10.377193 | 6.60 | 0.0015 |
| Error | 453 | 712.243421 | 1.572281 | | |
| Corrected Total | 455 | 732.997807 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.028314 | 100.4888 | 1.2539 | 1.2478 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|----------|----|-----------|-------------|---------|--------|
| TNGMETHD | 2 | 20.754386 | 10.377193 | 6.60 | 0.0015 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.572281
 Critical Value of T= 1.97
 Least Significant Difference= 0.2827

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHD |
|------------|--------|-----|-------------------------|
| A | 1.4539 | 152 | M = Mentoring |
| A | | | |
| A | 1.3355 | 152 | B = Behavior Modeling |
| B | 0.9539 | 152 | S = Simulation Exercise |

Analysis of Variance for Introspection

Class Level Information

Class Levels Values

TNGMETHOD 3 M O S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----------|----------------|-------------|---------|----------|
| Model | 2 | 40.583333 | 20.291667 | 12.36 | 0.0001 |
| Error | 453 | 743.486842 | 1.641251 | | |
| Corrected Total | 455 | 784.070175 | | | |
| | R-Square | C.V. | Root MSE | | EFF Mean |
| | 0.051760 | 114.9976 | 1.2811 | | 1.1140 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|-----------|----|-----------|-------------|---------|--------|
| TNGMETHOD | 2 | 40.583333 | 20.291667 | 12.36 | 0.0001 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.641251
Critical Value of T= 1.97
Least Significant Difference= 0.2888

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHOD |
|------------|--------|-----|-------------------------|
| A | 1.4868 | 152 | M = Mentoring |
| B | 1.0987 | 152 | S = Simulation Exercise |
| C | 0.7566 | 152 | O = On-the-Job-Training |

Analysis of Variance for Performance Communication

Class Level Information

Class Levels Values

TNGMETHD 3 B M S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 0.8596491 | 0.4298246 | 0.25 | 0.7820 |
| Error | 453 | 791.3486842 | 1.7469066 | | |
| Corrected Total | 455 | 792.2083333 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.001085 | 102.3256 | 1.3217 | 1.2917 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|----------|----|-----------|-------------|---------|--------|
| TNGMETHD | 2 | 0.8596491 | 0.4298246 | 0.25 | 0.7820 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.746907
Critical Value of T= 1.97
Least Significant Difference= 0.2979

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHD |
|------------|--------|-----|-------------------------|
| A | 1.3487 | 152 | M = Mentoring |
| A | | | |
| A | 1.2829 | 152 | B = Behavior Modeling |
| A | | | |
| A | 1.2434 | 152 | S = Simulation Exercise |

Analysis of Variance for Planning and Organizing

Class Level Information

Class Levels Values

TNGMETHD 3 M O S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 24.767544 | 12.383772 | 6.77 | 0.0013 |
| Error | 453 | 828.388158 | 1.828671 | | |
| Corrected Total | 455 | 853.155702 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.029031 | 127.1426 | 1.3523 | 1.0636 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|----------|----|-----------|-------------|---------|--------|
| TNGMETHD | 2 | 24.767544 | 12.383772 | 6.77 | 0.0013 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.828671

Critical Value of T= 1.97

Least Significant Difference= 0.3048

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHD |
|------------|--------|-----|-------------------------|
| A | 1.3684 | 152 | S = Simulation Exercise |
| B | 1.0197 | 152 | M = Mentoring |
| B | | | |
| B | 0.8026 | 152 | O = On-the-Job-Training |

Analysis of Variance for Providing Praise and Recognition

Class Level Information

Class Levels Values

TNGMETHOD 3 B M S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 3.2500000 | 1.6250000 | 1.05 | 0.3504 |
| Error | 453 | 700.3092105 | 1.5459364 | | |
| Corrected Total | 455 | 703.5592105 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.004619 | 92.19037 | 1.2434 | 1.3487 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|-----------|----|-----------|-------------|---------|--------|
| TNGMETHOD | 2 | 3.2500000 | 1.6250000 | 1.05 | 0.3504 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.545936
Critical Value of T= 1.97
Least Significant Difference= 0.2803

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHOD |
|------------|--------|-----|-------------------------|
| A | 1.4408 | 152 | B = Behavior Modeling |
| A | | | |
| A | 1.3684 | 152 | M = Mentoring |
| A | | | |
| A | 1.2368 | 152 | S = Simulation Exercise |

Analysis of Variance for Setting Goals

Class Level Information

Class Levels Values

TNGMETHOD 3 M O S

Number of observations in data set = 456

Dependent Variable: EFF

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|-----|----------------|-------------|---------|--------|
| Model | 2 | 20.609649 | 10.304825 | 5.64 | 0.0038 |
| Error | 453 | 827.756579 | 1.827277 | | |
| Corrected Total | 455 | 848.366228 | | | |

| R-Square | C.V. | Root MSE | EFF Mean |
|----------|----------|----------|----------|
| 0.024293 | 120.6275 | 1.3518 | 1.1206 |

| Source | DF | Anova SS | Mean Square | F Value | Pr > F |
|-----------|----|-----------|-------------|---------|--------|
| TNGMETHOD | 2 | 20.609649 | 10.304825 | 5.64 | 0.0038 |

T tests (LSD) for variable: EFF

NOTE: This test controls the type I comparisonwise error rate not the experimentwise error rate.

Alpha= 0.05 df= 453 MSE= 1.827277

Critical Value of T= 1.97

Least Significant Difference= 0.3047

Means with the same letter are not significantly different.

| T Grouping | Mean | N | TNGMETHOD |
|------------|--------|-----|-------------------------|
| A | 1.3026 | 152 | S = Simulation Exercise |
| A | | | |
| A | 1.2368 | 152 | M = Mentoring |
| B | 0.8224 | 152 | O = On-the-Job-Training |

Appendix K: Correlation Analysis by Skill

Correlation Analysis for Acting Consistently

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | AC1 | AC2 | AC3 | AC4 | AC5 | AC6 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| ACBM | 0.56016 0.0001 | -0.15169 0.0621 | -0.01828 0.8231 | -0.13047 0.1091 | -0.07674 0.3474 | -0.19429 0.0165 |
| ACCL | -0.13585 0.0952 | 0.60562 0.0001 | 0.07176 0.3797 | 0.29653 0.0002 | -0.10176 0.2122 | 0.06065 0.4579 |
| ACCB | 0.09745 0.2323 | -0.21043 0.0093 | 0.42695 0.0001 | -0.19505 0.0160 | 0.19761 0.0147 | -0.15314 0.0596 |
| ACCC | -0.02648 0.7460 | -0.00555 0.9459 | -0.07916 0.3323 | 0.23838 0.0031 | -0.10397 0.2024 | 0.00206 0.9799 |
| ACIV | 0.04707 0.5647 | -0.07140 0.3821 | 0.21248 0.0086 | -0.01277 0.8759 | 0.57667 0.0001 | -0.22735 0.0048 |
| AC0J | -0.13870 0.0883 | 0.03545 0.6646 | -0.12459 0.1262 | 0.03302 0.6863 | -0.19964 0.0137 | 0.56093 0.0001 |
| ACME | -0.10217 0.2104 | 0.02225 0.7855 | -0.06131 0.4531 | 0.08401 0.3035 | -0.16709 0.0396 | 0.14888 0.0672 |
| ACSE | -0.13015 0.1100 | -0.13248 0.1037 | -0.01312 0.8726 | -0.07885 0.3342 | 0.07336 0.3691 | -0.11376 0.1629 |
| ACSW | -0.04611 0.5727 | 0.09506 0.2440 | 0.00125 0.9878 | -0.07239 0.3754 | 0.03255 0.6905 | -0.20873 0.0099 |
| ACVT | -0.00100 0.9902 | -0.00381 0.9629 | -0.09278 0.2556 | -0.06575 0.4210 | 0.00551 0.9463 | -0.05174 0.5267 |
| ACWE | -0.12614 0.1215 | -0.16290 0.0449 | -0.19214 0.0177 | -0.10091 0.2161 | -0.08787 0.2817 | 0.03195 0.6960 |

KEY

AC1 & ACBM = Behavior Modeling

AC2 & ACCL = Classroom Lecture

AC3 & ACCB = Computer Based Training

AC4 & ACCC = Correspondence Course

AC5 & ACIV = Interactive Video Disk

AC6 & ACOJ = On-the-Job Training

AC7 & ACME = Mentoring

AC8 & ACSE = Simulation Exercise

AC9 & ACSW = Seminar/Workshop

AC10 & ACVT = Video Tape

AC11 & ACWE = Wilderness Experience

Correlation Analysis for Acting Consistently (Cont.)

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | AC7 | AC8 | AC9 | AC10 | AC11 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|
| ACEM | -0.08933 0.2738 | -0.11197 0.1696 | -0.14580 0.0731 | -0.17919 0.0272 | -0.05483 0.5023 |
| ACCL | 0.08710 0.2860 | 0.00381 0.9628 | 0.23690 0.0033 | 0.11577 0.1555 | -0.04354 0.5943 |
| ACCB | -0.03417 0.6760 | -0.07685 0.3467 | -0.15798 0.0519 | -0.12734 0.1180 | -0.22961 0.0044 |
| ACCC | -0.05032 0.5381 | 0.00854 0.9168 | 0.00305 0.9702 | -0.12510 0.1246 | -0.26079 0.0012 |
| ACIV | -0.16673 0.0401 | 0.21773 0.0070 | 0.08372 0.3051 | 0.16881 0.0376 | -0.02327 0.7760 |
| AC0J | 0.07733 0.3437 | -0.18192 0.0249 | -0.19777 0.0146 | -0.09968 0.2218 | 0.00534 0.9479 |
| ACME | 0.54749 0.0001 | -0.20680 0.0106 | -0.20191 0.0126 | -0.20268 0.0123 | -0.18201 0.0248 |
| ACSE | -0.26299 0.0011 | 0.46551 0.0001 | 0.14631 0.0721 | 0.02440 0.7654 | 0.14605 0.0726 |
| ACSW | -0.18144 0.0253 | -0.00296 0.9711 | 0.33564 0.0001 | 0.06432 0.4311 | -0.10812 0.1849 |
| ACVT | 0.04321 0.5971 | -0.00072 0.9930 | 0.06889 0.3991 | 0.48714 0.0001 | -0.07711 0.3451 |
| ACWE | -0.05840 0.4748 | -0.05432 0.5063 | -0.04839 0.5538 | -0.04756 0.5606 | 0.60723 0.0001 |

KEY

AC1 & ACEM = Behavior Modeling
AC2 & ACCL = Classroom Lecture
AC3 & ACCB = Computer Based Training
AC4 & ACCC = Correspondence Course
AC5 & ACIV = Interactive Video Disk
AC6 & ACOJ = On-the-Job Training

AC7 & ACME = Mentoring
AC8 & ACSE = Simulation Exercise
AC9 & ACSW = Seminar/Workshop
AC10 & ACVT = Video Tape
AC11 & ACWE = Wilderness Experience

Correlation Analysis for Inspiring Subordinates

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | IS1 | IS2 | IS3 | IS4 | IS5 | IS6 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| ISBM | 0.58698 0.0001 | -0.08092 0.3217 | -0.00411 0.9599 | 0.02085 0.7988 | -0.05533 0.4984 | -0.16506 0.0421 |
| ISCL | -0.09672 0.2359 | 0.50515 0.0001 | -0.00200 0.9805 | 0.10328 0.2055 | -0.11596 0.1548 | 0.00316 0.9692 |
| ISCB | 0.01650 0.8401 | -0.05140 0.5294 | 0.34158 0.0001 | -0.05113 0.5312 | 0.21829 0.0069 | -0.01201 0.8832 |
| ISCC | 0.02705 0.7408 | 0.04420 0.5887 | 0.02661 0.7449 | 0.34850 0.0001 | -0.09826 0.2285 | 0.02321 0.7765 |
| ISIV | -0.10176 0.2122 | -0.11425 0.1610 | 0.07956 0.3299 | -0.06986 0.3924 | 0.42579 0.0001 | 0.00178 0.9826 |
| ISOJ | -0.13704 0.0923 | -0.07320 0.3702 | -0.16339 0.0443 | -0.02650 0.7459 | -0.20711 0.0105 | 0.55469 0.0001 |
| ISME | -0.17092 0.0353 | 0.16967 0.0366 | 0.09167 0.2614 | 0.17581 0.0303 | 0.02159 0.7918 | -0.00924 0.9100 |
| ISSE | -0.13966 0.0862 | -0.08015 0.3263 | -0.07811 0.3388 | -0.10996 0.1775 | -0.14320 0.0784 | -0.07695 0.3461 |
| ISSW | -0.12041 0.1395 | 0.16420 0.0432 | 0.09912 0.2244 | 0.01254 0.3782 | 0.15292 0.0600 | -0.03928 0.6309 |
| ISVT | 0.05391 0.5095 | -0.06707 0.4116 | 0.00056 0.9946 | 0.04061 0.6194 | 0.01525 0.8521 | -0.12155 0.1358 |
| ISWE | -0.05911 0.4695 | -0.19382 0.0167 | -0.23368 0.0038 | -0.29880 0.0002 | -0.10200 0.2112 | -0.05345 0.5131 |

KEY

IS1 & ISBM = Behavior Modeling

IS2 & ISCL = Classroom Lecture

IS3 & ISCB = Computer Based Training

IS4 & ISCC = Correspondence Course

IS5 & ISIV = Interactive Video Disk

IS6 & ISOJ = On-the-Job Training

IS7 & ISME = Mentoring

IS8 & ISSE = Simulation Exercise

IS9 & ISSW = Seminar/Workshop

IS10 & ISVT = Video Tape

IS11 & ISWE = Wilderness Experience

Correlation Analysis for Inspiring Subordinates (Cont.)

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | IS7 | IS8 | IS9 | IS10 | IS11 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|
| ISEM | -0.05091 0.5333 | -0.02821 0.7301 | -0.09972 0.2216 | -0.16218 0.0459 | -0.02113 0.7961 |
| ISCL | 0.00113 0.9890 | -0.12066 0.1387 | 0.17257 0.0335 | 0.12915 0.1128 | -0.15476 0.0570 |
| ISCB | -0.05415 0.5076 | 0.08172 0.3169 | -0.05410 0.5080 | -0.08893 0.2759 | -0.23807 0.0031 |
| ISCC | 0.03796 0.6424 | -0.17132 0.0348 | -0.11676 0.1520 | -0.20574 0.0110 | -0.31798 0.0001 |
| ISIV | 0.00110 0.9893 | 0.12281 0.1317 | -0.00799 0.9222 | 0.18860 0.0200 | -0.09667 0.2361 |
| ISOJ | 0.01245 0.8790 | -0.22795 0.0047 | -0.21955 0.0066 | -0.08473 0.2993 | -0.02053 0.8018 |
| ISME | 0.42960 0.0001 | -0.30156 0.0002 | -0.10600 0.1937 | -0.04628 0.5712 | -0.09011 0.2696 |
| ISSE | -0.16719 0.0395 | 0.53567 0.0001 | 0.11730 0.1501 | -0.13120 0.1072 | -0.00981 0.9045 |
| ISSW | -0.07007 0.3910 | 0.18282 0.0242 | 0.48007 0.0001 | 0.03663 0.6536 | -0.08939 0.2734 |
| ISVT | -0.03063 0.7079 | -0.02789 0.7331 | 0.09669 0.2360 | 0.48822 0.0001 | -0.06588 0.4200 |
| ISWE | -0.09934 0.2233 | 0.05067 0.5353 | -0.01516 0.8530 | -0.07329 0.3695 | 0.69677 0.0001 |

KEY

| | |
|--------------------------------------|-------------------------------------|
| IS1 & ISEM = Behavior Modeling | IS7 & ISME = Mentoring |
| IS2 & ISCL = Classroom Lecture | IS8 & ISSE = Simulation Exercise |
| IS3 & ISCB = Computer Based Training | IS9 & ISSW = Seminar/Workshop |
| IS4 & ISCC = Correspondence Course | IS10 & ISVT = Video Tape |
| IS5 & ISIV = Interactive Video Disk | IS11 & ISWE = Wilderness Experience |
| IS6 & ISOJ = On-the-Job Training | |

Correlation Analysis for Communicating a Shared Understanding

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | CS1 | CS2 | CS3 | CS4 | CS5 | CS6 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| CSBM | 0.59633 0.0001 | -0.12156 0.1357 | 0.08071 0.3229 | 0.05051 0.5366 | 0.06317 0.4394 | -0.09110 0.2643 |
| CSCL | -0.14049 0.0843 | 0.54253 0.0001 | 0.06389 0.4342 | 0.22065 0.0063 | -0.10691 0.1899 | -0.17273 0.0333 |
| CSCE | 0.04781 0.5586 | -0.00562 0.9452 | 0.37564 0.0001 | 0.06248 0.4445 | 0.27624 0.0006 | 0.03899 0.6334 |
| CSCC | -0.09114 0.2641 | -0.00349 0.9660 | 0.02497 0.7601 | 0.18570 0.0220 | -0.01883 0.8179 | -0.13631 0.0940 |
| CSIV | 0.04810 0.5563 | -0.14459 0.0755 | 0.14605 0.0726 | 0.02433 0.7814 | 0.44712 0.0001 | 0.02950 0.7574 |
| CSOJ | -0.10016 0.2195 | -0.23409 0.0037 | -0.23344 0.0038 | -0.16865 0.0378 | -0.23224 0.0040 | 0.57405 0.0001 |
| CSME | 0.07605 0.3517 | 0.04468 0.5847 | -0.02773 0.7345 | 0.07556 0.3548 | -0.19793 0.0145 | 0.12694 0.1191 |
| CSSE | -0.08516 0.2969 | 0.09506 0.2440 | 0.02767 0.7350 | 0.00744 0.9275 | 0.06756 0.4083 | -0.17842 0.0279 |
| CSSW | -0.23763 0.0032 | 0.25498 0.0015 | 0.01056 0.8973 | 0.00523 0.9490 | 0.00208 0.9798 | -0.19810 0.0140 |
| CSVV | -0.16645 0.0404 | -0.04817 0.5557 | -0.09494 0.2446 | -0.10267 0.2082 | -0.05218 0.5232 | -0.06601 0.4101 |
| CSWE | -0.02548 0.7553 | -0.28304 0.0004 | -0.23839 0.0031 | -0.27201 0.0007 | -0.10222 0.2102 | -0.00014 0.9986 |

KEY

CS1 & CSBM = Behavior Modeling

CS2 & CSCL = Classroom Lecture

CS3 & CSCE = Computer Based Training

CS4 & CSCE = Correspondence Course

CS5 & CSIV = Interactive Video Disk

CS6 & CSOJ = On-the-Job Training

CS7 & CSME = Mentoring

CS8 & CSSE = Simulation Exercise

CS9 & CSSW = Seminar/Workshop

CS10 & CSVV = Video Tape

CS11 & CSWE = Wilderness Experience

Correlation Analysis for Communicating a Shared Understanding (Cont.)

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | CS7 | CS8 | CS9 | CS10 | CS11 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|
| CSEB | 0.08038 0.3249 | -0.01626 0.8424 | -0.13261 0.1034 | -0.11343 0.1641 | 0.01881 0.8181 |
| CSEL | 0.07359 0.3676 | -0.18729 0.0209 | 0.20171 0.0127 | 0.07491 0.3590 | -0.20752 0.0103 |
| CSEB | 0.01478 0.8566 | 0.10090 0.2161 | -0.02764 0.7354 | -0.00316 0.9692 | -0.04554 0.5774 |
| CSCC | -0.13642 0.0938 | -0.03798 0.6423 | -0.10156 0.2131 | -0.17540 0.0307 | -0.21898 0.0067 |
| CSIV | -0.12068 0.1386 | 0.06888 0.3991 | -0.15893 0.0505 | 0.04314 0.3977 | 0.06880 0.3995 |
| CSOJ | 0.03305 0.6861 | -0.14161 0.0818 | -0.23730 0.0032 | -0.14690 0.0709 | 0.00921 0.9103 |
| CSME | 0.50771 0.0001 | -0.26173 0.0011 | -0.23430 0.0037 | -0.16576 0.0413 | -0.24637 0.0022 |
| CSSE | -0.18048 0.0261 | 0.50538 0.0001 | 0.17957 0.0268 | 0.09677 0.2356 | 0.09205 0.2594 |
| CSSW | -0.12957 0.1116 | -0.00377 0.9632 | 0.59230 0.0001 | 0.13665 0.0932 | -0.08742 0.2842 |
| CSVV | -0.09948 0.2227 | -0.07822 0.3381 | 0.05710 0.4847 | 0.47553 0.0001 | -0.10241 0.2093 |
| CSWE | -0.12317 0.1306 | 0.09499 0.2444 | -0.03620 0.6572 | -0.13804 0.0899 | 0.57822 0.0001 |

KEY

CS1 & CSEB = Behavior Modeling
CS2 & CSEL = Classroom Lecture
CS3 & CSCB = Computer Based Training
CS4 & CSCC = Correspondence Course
CS5 & CSIV = Interactive Video Disk
CS6 & CSOJ = On-the-Job Training

CS7 & CSME = Mentoring
CS8 & CSSE = Simulation Exercise
CS9 & CSSW = Seminar/Workshop
CS10 & CSVV = Video Tape
CS11 & CSWE = Wilderness Experience

Correlation Analysis for Enthusiasm

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | EN1 | EN2 | EN3 | EN4 | EN5 | EN6 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| ENEM | 0.66788 0.0001 | -0.07828 0.3378 | 0.00200 0.9805 | 0.01114 0.8917 | 0.05067 0.5353 | 0.01171 0.9861 |
| ENCL | -0.07362 0.3674 | 0.41053 0.0001 | 0.04186 0.6086 | 0.14479 0.0751 | -0.11453 0.1600 | -0.11849 0.1460 |
| ENCB | -0.19477 0.0162 | -0.05524 0.4991 | 0.16952 0.0368 | -0.09229 0.2581 | 0.07072 0.3866 | 0.06364 0.4360 |
| ENCC | -0.04065 0.6190 | -0.00763 0.9257 | 0.02625 0.7482 | 0.23921 0.0030 | -0.15584 0.0552 | -0.08499 0.2979 |
| ENIV | -0.10955 0.1791 | -0.08620 0.2910 | 0.14520 0.0743 | 0.06363 0.4357 | 0.45553 0.0001 | -0.01141 0.8890 |
| EN0J | -0.17220 0.0339 | -0.21550 0.0077 | -0.23851 0.0031 | -0.26299 0.0011 | -0.31169 0.0001 | 0.54946 0.0001 |
| ENME | -0.10955 0.1791 | 0.05058 0.5360 | 0.07590 0.3527 | 0.07145 0.3817 | -0.04501 0.5817 | 0.03738 0.6476 |
| ENSE | -0.02891 0.7236 | -0.02613 0.7493 | -0.02672 0.7438 | -0.06326 0.4387 | 0.06069 0.4576 | -0.07254 0.3745 |
| ENSW | -0.04477 0.5839 | 0.21200 0.0087 | 0.02033 0.8037 | 0.03759 0.6457 | -0.06262 0.4435 | -0.15804 0.0385 |
| ENVT | 0.00325 0.9683 | 0.03677 0.6529 | 0.13528 0.0966 | 0.08100 0.3212 | 0.14609 0.0723 | -0.20034 0.0103 |
| ENWE | -0.03491 0.6694 | -0.12989 0.1107 | -0.20351 0.0119 | -0.13321 0.1018 | 0.00302 0.9705 | -0.09854 0.2271 |

KEY

| | |
|--------------------------------------|-------------------------------------|
| EN1 & ENEM = Behavior Modeling | EN7 & ENME = Mentoring |
| EN2 & ENCL = Classroom Lecture | EN8 & ENSE = Simulation Exercise |
| EN3 & ENCB = Computer Based Training | EN9 & ENSW = Seminar/Workshop |
| EN4 & ENCC = Correspondence Course | EN10 & ENVT = Video Tape |
| EN5 & ENIV = Interactive Video Disk | EN11 & ENWE = Wilderness Experience |
| EN6 & EN0J = On-the-Job Training | |

Correlation Analysis for Enthusiasm (Cont.)

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | EN7 | EN8 | EN9 | EN10 | EN11 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|
| ENBM | 0.14548 0.0737 | 0.05049 0.5367 | -0.03755 0.6460 | -0.04688 0.5663 | 0.08571 0.2938 |
| ENCL | -0.06921 0.3968 | -0.03663 0.6541 | 0.08714 0.2857 | -0.05545 0.4974 | -0.23257 0.0039 |
| ENCE | -0.12197 0.1344 | -0.01195 0.8838 | -0.08005 0.3269 | -0.05204 0.5243 | -0.24356 0.0025 |
| ENCC | -0.17269 0.0334 | -0.12176 0.1351 | -0.02116 0.7958 | -0.04861 0.5520 | -0.15835 0.0514 |
| ENIV | -0.13820 0.0805 | 0.01643 0.3408 | -0.11033 0.1760 | 0.15800 0.0519 | -0.07733 0.3437 |
| ENOJ | -0.05052 0.5365 | -0.26307 0.0011 | -0.34534 0.0001 | -0.37477 0.0001 | -0.15480 0.0572 |
| ENME | 0.51839 0.0001 | -0.08745 0.2840 | -0.04577 0.5755 | 0.00323 0.9680 | -0.00227 0.9778 |
| ENSE | -0.14098 0.0832 | 0.47517 0.0001 | 0.13263 0.1033 | -0.04613 0.5703 | 0.10501 0.1973 |
| ENSW | -0.14673 0.0712 | -0.00342 0.9667 | 0.44031 0.0001 | 0.08348 0.3066 | -0.15792 0.0520 |
| ENVT | -0.05985 0.4639 | 0.02884 0.7243 | 0.05194 0.5251 | 0.48127 0.0001 | -0.08941 0.2733 |
| ENWE | 0.05695 0.4858 | 0.00746 0.9273 | 0.04900 0.5488 | -0.01136 0.8895 | 0.63679 0.0001 |

KEY

EN1 & ENBM = Behavior Modeling

EN2 & ENCL = Classroom Lecture

EN3 & ENCE = Computer Based Training

EN4 & ENCC = Correspondence Course

EN5 & ENIV = Interactive Video Disk

EN6 & ENOJ = On-the-Job Training

EN7 & ENME = Mentoring

EN8 & ENSE = Simulation Exercise

EN9 & ENSW = Seminar/Workshop

EN10 & ENVT = Video Tape

EN11 & ENWE = Wilderness Experience

Correlation Analysis for Introspection

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | IN1 | IN2 | IN3 | IN4 | IN5 | IN6 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| INBM | 0.59596 0.0001 | -0.13006 0.1102 | -0.10257 0.2086 | -0.17198 0.0341 | -0.08228 0.2136 | -0.00489 0.9523 |
| INCL | -0.00577 0.9438 | 0.43254 0.0001 | 0.09226 0.2583 | 0.06218 0.4467 | -0.12884 0.1137 | -0.05463 0.5039 |
| INCE | -0.02684 0.7427 | 0.06664 0.4146 | 0.36046 0.0001 | 0.12177 0.1351 | 0.19647 0.0142 | -0.12009 0.1216 |
| INCC | -0.12790 0.1163 | 0.18865 0.0199 | 0.13627 0.0941 | 0.36537 0.0001 | 0.06146 0.4519 | -0.09606 0.2391 |
| INIV | -0.08680 0.2876 | -0.02911 0.7219 | 0.20747 0.0103 | 0.11590 0.1550 | 0.49210 0.0001 | 0.06726 0.4103 |
| INOJ | -0.10973 0.1784 | -0.21449 0.0080 | -0.17833 0.0279 | -0.12139 0.1363 | -0.15006 0.0650 | 0.58440 0.0001 |
| INME | 0.08676 0.2879 | -0.06136 0.4527 | -0.03658 0.6546 | -0.02733 0.7382 | -0.05101 0.5326 | 0.11035 0.1759 |
| INSE | -0.01057 0.8971 | -0.06249 0.4444 | -0.08378 0.3048 | -0.11573 0.1556 | -0.01752 0.8303 | -0.14901 0.0669 |
| INSW | -0.25015 0.0019 | 0.13023 0.1098 | -0.03403 0.6772 | 0.01906 0.3157 | 0.08309 0.0033 | 0.34908 0.0001 |
| INVT | -0.11260 0.1672 | -0.12143 0.1362 | -0.05820 0.4763 | 0.04996 0.5411 | 0.10952 0.2173 | -0.03026 0.7110 |
| INWE | -0.06346 0.4373 | -0.12156 0.1357 | -0.16010 0.0488 | -0.18468 0.0227 | -0.17838 0.0279 | 0.02391 0.7237 |

KEY

| | |
|--------------------------------------|-------------------------------------|
| IN1 & INEM = Behavior Modeling | IN7 & INME = Mentoring |
| IN2 & INCL = Classroom Lecture | IN8 & INSE = Simulation Exercise |
| IN3 & INCE = Computer Based Training | IN9 & INSW = Seminar/Workshop |
| IN4 & INCC = Correspondence Course | IN10 & INVT = Video Tape |
| IN5 & INIV = Interactive Video Disk | IN11 & INWE = Wilderness Experience |
| IN6 & INOJ = On-the-Job Training | |

Correlation Analysis for Introspection (Cont.)

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | IN7 | IN8 | IN9 | IN10 | IN11 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|
| INBM | 0.21320 0.0084 | 0.03162 0.6990 | -0.14908 0.0668 | -0.12395 0.1281 | -0.01448 0.8595 |
| INCL | -0.17051 0.0357 | -0.16118 0.0473 | 0.00424 0.9586 | -0.04211 0.6065 | -0.11120 0.1726 |
| INCB | -0.06247 0.4445 | -0.07648 0.3490 | 0.00847 0.9175 | 0.02404 0.7688 | 0.06174 0.4499 |
| INCC | -0.18415 0.0231 | -0.11608 0.1544 | -0.04983 0.5421 | 0.01320 0.8717 | -0.24699 0.0022 |
| INIV | -0.09584 0.2402 | -0.10789 0.1858 | -0.09494 0.2446 | 0.19540 0.0158 | -0.12178 0.1350 |
| INOJ | 0.11220 0.1687 | -0.17224 0.0339 | -0.26042 0.0012 | -0.16079 0.0478 | -0.03903 0.6329 |
| INME | 0.57536 0.0001 | -0.11762 0.1490 | -0.06787 0.4061 | -0.11254 0.1674 | -0.14086 0.0835 |
| INSE | -0.25953 0.0012 | 0.49833 0.0001 | 0.04666 0.5681 | -0.04674 0.5674 | 0.04304 0.5986 |
| INSW | -0.11772 0.1486 | 0.05073 0.5348 | 0.53810 0.0001 | 0.03524 0.6665 | -0.07780 0.3408 |
| INVT | -0.06261 0.4435 | -0.02594 0.7510 | 0.09152 0.2621 | 0.39798 0.0001 | -0.04383 0.5919 |
| INWE | -0.06194 0.4484 | 0.16649 0.0404 | 0.05945 0.4669 | -0.06905 0.3979 | 0.59755 0.0001 |

KEY

IN1 & INBM = Behavior Modeling

IN2 & INCL = Classroom Lecture

IN3 & INCB = Computer Based Training

IN4 & INCC = Correspondence Course

IN5 & INIV = Interactive Video Disk

IN6 & INOJ = On-the-Job Training

IN7 & INME = Mentoring

IN8 & INSE = Simulation Exercise

IN9 & INSW = Seminar/Workshop

IN10 & INVT = Video Tape

IN11 & INWE = Wilderness Experience

Correlation Analysis for Emphasizing Performance

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | EP1 | EP2 | EP3 | EP4 | EP5 | EP6 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| EPBM | 0.47611 0.0001 | -0.03333 0.6835 | 0.05530 0.4986 | 0.03882 0.6349 | 0.00005 0.9995 | -0.20734 0.0104 |
| EPCL | -0.02182 0.7896 | 0.48100 0.0001 | -0.04919 0.5473 | 0.12362 0.1292 | -0.15391 0.0583 | -0.06428 0.4214 |
| EPCE | -0.00209 0.9796 | -0.05565 0.4959 | 0.30243 0.0002 | -0.11862 0.1455 | 0.10014 0.2196 | 0.07964 0.3294 |
| EPCC | -0.13088 0.1080 | 0.14949 0.0660 | 0.07197 0.3700 | 0.29171 0.0003 | -0.12344 0.1297 | -0.03378 0.0706 |
| EPIV | -0.00024 0.9977 | -0.01421 0.0080 | -0.03226 0.6932 | -0.19386 0.0167 | 0.46635 0.0001 | -0.03304 0.6700 |
| EPOJ | -0.01196 0.8838 | -0.18479 0.0227 | -0.20189 0.0126 | -0.08359 0.3059 | -0.20940 0.0096 | 0.54161 0.0001 |
| EPME | 0.00894 0.9129 | 0.18868 0.0199 | 0.12344 0.1297 | 0.12640 0.1207 | -0.01914 0.8149 | 0.07102 0.3040 |
| EPSE | -0.14363 0.0775 | -0.10788 0.1059 | -0.03681 0.6325 | -0.06503 0.4261 | 0.03456 0.6725 | -0.08398 0.3006 |
| EPSW | -0.19073 0.0186 | 0.13675 0.0930 | 0.00610 0.4134 | 0.04563 0.5767 | -0.02759 0.7358 | -0.19892 0.0140 |
| EPVT | -0.21285 0.0035 | -0.15881 0.0507 | -0.13922 0.0872 | -0.03049 0.7092 | 0.02866 0.7260 | -0.14955 0.0659 |
| EPWE | 0.04075 0.6182 | -0.10054 0.2178 | -0.07751 0.3426 | -0.06562 0.2943 | -0.00673 0.9345 | 0.02777 0.7342 |

KEY

EP1 & EPBM = Behavior Modeling

EP2 & EPCL = Classroom Lecture

EP3 & EPCE = Computer Based Training

EP4 & EPCC = Correspondence Course

EP5 & EPIV = Interactive Video Disk

EP6 & EPOJ = On-the Job Training

EP7 & EPME = Mentoring

EP8 & EPSE = Simulation Exercise

EP9 & EPSW = Seminar/Workshop

EP10 & EPVT = Video Tape

EP11 & EPWE = Wilderness Experience

Correlation Analysis for Emphasizing Performance (Cont.)

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under H₀: Rho=0 / N = 152

| | EP7 | EP8 | EP9 | EP10 | EP11 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|
| EPBM | 0.12727 0.1182 | -0.17792 0.0283 | -0.03035 0.7105 | -0.17605 0.0300 | -0.04456 0.5056 |
| EPCL | 0.05247 0.5209 | -0.04503 0.5817 | 0.27064 0.0007 | 0.05876 0.4721 | -0.11525 0.1574 |
| EPCE | 0.05679 0.4871 | 0.06299 0.4403 | 0.00903 0.9120 | 0.04171 0.6098 | -0.13040 0.1091 |
| EPCC | 0.02863 0.7262 | -0.08558 0.2945 | 0.00402 0.9608 | -0.01564 0.3484 | -0.35947 0.0001 |
| EPIV | -0.12423 0.1273 | 0.12506 0.1247 | -0.12372 0.1289 | 0.04175 0.6005 | 0.07617 0.0310 |
| EPOJ | 0.01408 0.8633 | -0.18962 0.0193 | -0.33505 0.0001 | -0.23865 0.0031 | -0.07859 0.3359 |
| EPME | 0.54719 0.0001 | -0.23773 0.0032 | -0.05230 0.5223 | -0.03973 0.6270 | -0.12842 0.1110 |
| EPSE | -0.31323 0.0001 | 0.43616 0.0001 | 0.09164 0.2615 | 0.01448 0.8315 | 0.02745 0.7071 |
| EPSW | -0.03698 0.6510 | 0.11944 0.1428 | 0.49309 0.0001 | 0.14429 0.0761 | -0.19005 0.0190 |
| EPVT | -0.18773 0.0206 | -0.01349 0.8689 | -0.04393 0.5910 | 0.42823 0.0001 | 0.09459 0.2464 |
| EPWE | -0.15830 0.0514 | 0.05300 0.4774 | -0.05903 0.4699 | -0.11367 0.1559 | 0.66423 0.0001 |

KEY

EP1 & EPBM = Behavior Modeling

EP2 & EPCL = Classroom Lecture

EP3 & EPCE = Computer Based Training

EP4 & EPCC = Correspondence Course

EP5 & EPIV = Interactive Video Disk

EP6 & EPOJ = On-the-Job Training

EP7 & EPME = Mentoring

EP8 & EPSE = Simulation Exercise

EP9 & EPSW = Seminar/Workshop

EP10 & EPVT = Video Tape

EP11 & EPWE = Wilderness Experience

Correlation Analysis for Planning and Organizing

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| POBM | 0.54829 0.0001 | -0.27290 0.0007 | -0.24432 0.0024 | -0.26086 0.0012 | -0.18365 0.0235 | -0.00635 0.9381 |
| POCL | -0.15800 0.0519 | 0.58916 0.0001 | 0.00243 0.9763 | 0.12387 0.1284 | -0.07303 0.3713 | -0.21023 0.0093 |
| POCB | -0.18311 0.0239 | 0.13411 0.0995 | 0.55628 0.0001 | 0.17755 0.0286 | 0.23959 0.0030 | -0.04104 0.6137 |
| POCC | -0.26199 0.0011 | 0.08724 0.2852 | 0.03818 0.6405 | 0.39267 0.0001 | -0.04147 0.6120 | -0.15032 0.0645 |
| POIV | -0.15749 0.0527 | -0.05634 0.4906 | 0.13566 0.0220 | 0.00223 0.9703 | 0.43023 0.0001 | -0.11259 0.1171 |
| POOJ | 0.06498 0.4264 | -0.19152 0.0181 | -0.12903 0.1131 | -0.12441 0.1267 | 0.14181 0.0814 | 0.56970 0.0001 |
| POME | 0.16455 0.0428 | -0.02015 0.8054 | -0.05476 0.5028 | -0.03277 0.6835 | -0.15401 0.0582 | 0.27990 0.0003 |
| POSE | -0.03765 0.6452 | -0.17495 0.0311 | 0.01567 0.8481 | -0.02169 0.7909 | -0.04954 0.5444 | 0.02072 0.6000 |
| POSN | -0.12240 0.1328 | 0.26270 0.0011 | -0.04860 0.5521 | 0.02255 0.7827 | 0.00601 0.9385 | -0.36842 0.0001 |
| POVT | -0.07947 0.3304 | 0.03043 0.7098 | -0.07986 0.3280 | 0.05768 0.4303 | 0.12242 0.1330 | 0.17545 0.0306 |
| POWE | 0.09792 0.2301 | -0.25739 0.0014 | -0.12536 0.1238 | -0.23863 0.0031 | -0.12020 0.1402 | 0.04525 0.5798 |

KEY

PO1 & POBM = Behavior Modeling
PO2 & POCL = Classroom Lecture
PO3 & POCB = Computer Based Training
PO4 & POCC = Correspondence Course
PO5 & POIV = Interactive Video Disk
PO6 & POOJ = On-the Job Training

PO7 & PCME = Mentoring
PO8 & POSE = Simulation Exercise
PO9 & POSN = Seminar/Workshop
PO10 & POVT = Video Tape
PO11 & POWE = Wilderness Experience

Correlation Analysis for Planning and Organizing

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under H₀: Rho=0 / N = 152

| | PO7 | PO8 | PO9 | PO10 | PO11 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|
| POEM | 0.13281 0.1029 | -0.06092 0.4560 | -0.21493 0.0078 | -0.19537 0.0159 | 0.01708 0.3345 |
| POCL | -0.13368 0.1006 | -0.24212 0.0027 | 0.12375 0.1293 | -0.01390 0.6650 | -0.21534 0.0077 |
| POCB | -0.19546 0.0153 | -0.03035 0.7105 | 0.09364 0.2512 | 0.05794 0.4783 | -0.16266 0.0453 |
| POCC | -0.17380 0.0322 | -0.15501 0.0565 | -0.06642 0.4162 | -0.03603 0.2390 | -0.28441 0.0004 |
| POIV | -0.21256 0.0036 | -0.03394 0.6781 | -0.02845 0.7279 | 0.18649 0.0214 | -0.09772 0.2010 |
| POOC | 0.21448 0.0080 | -0.03982 0.6262 | -0.25765 0.0014 | -0.19696 0.0150 | -0.01305 0.3702 |
| POME | 0.50721 0.0001 | -0.06054 0.4587 | -0.16836 0.0081 | -0.03186 0.6968 | 0.10649 0.1916 |
| POSE | 0.09887 0.2256 | 0.54024 0.0001 | 0.07539 0.3553 | -0.00409 0.9601 | 0.13014 0.1020 |
| POSW | -0.25246 0.0017 | -0.10496 0.1981 | 0.40639 0.0001 | 0.06193 0.4485 | -0.17412 0.0319 |
| POVT | -0.17041 0.0079 | 0.05021 0.5390 | 0.18649 0.0214 | 0.46299 0.0001 | -0.10419 0.2013 |
| POWE | 0.03814 0.6408 | 0.12595 0.1224 | -0.01792 0.3265 | -0.12967 0.1113 | 0.61203 0.0001 |

KEY

| | |
|--------------------------------------|-------------------------------------|
| PO1 & POEM = Behavior Modeling | PO7 & POME = Mentoring |
| PO2 & POCL = Classroom Lecture | PO8 & POSE = Simulation Exercise |
| PO3 & POCB = Computer Based Training | PO9 & POSW = Seminar/Workshop |
| PO4 & POCC = Correspondence Course | PO10 & POVT = Video Tape |
| PO5 & POIV = Interactive Video Disk | PO11 & POWE = Wilderness Experience |
| PO6 & POOC = On the Job Training | |

Correlation Analysis for Foresight

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under H₀: Rho=0 / N = 152

| | FO1 | FO2 | FO3 | FO4 | FO5 | FO6 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| FOBM | 0.54244 0.0001 | -0.00537 0.9477 | -0.01903 0.8160 | -0.07909 0.3328 | -0.02196 0.7882 | 0.09607 0.2391 |
| FOCL | -0.07391 0.3655 | 0.49361 0.0001 | -0.09282 0.2554 | 0.10510 0.1975 | -0.09365 0.2511 | -0.06320 0.4136 |
| FOCD | -0.11328 0.1467 | 0.00991 0.9035 | 0.35980 0.0001 | 0.03749 0.6465 | 0.18847 0.0201 | -0.10940 0.1737 |
| FOCC | -0.14532 0.0741 | 0.10652 0.1915 | 0.14050 0.0843 | 0.33371 0.0001 | -0.02961 0.7172 | -0.12445 0.1286 |
| FOIV | 0.02521 0.7578 | -0.07662 0.3481 | 0.18608 0.0217 | 0.09896 0.2251 | 0.52136 0.0001 | -0.09286 0.2552 |
| FOOJ | -0.11499 0.1584 | -0.23309 0.0039 | -0.21944 0.0066 | -0.24938 0.0019 | -0.23785 0.0032 | 0.59225 0.0001 |
| FOME | 0.07513 0.3576 | 0.03153 0.6998 | 0.06481 0.4276 | 0.11310 0.1653 | -0.03928 0.5000 | 0.03914 0.6321 |
| FOSE | -0.07511 0.3577 | -0.12599 0.1219 | 0.08277 0.3107 | -0.06756 0.4082 | 0.04698 0.3659 | 0.09755 0.2318 |
| FOSW | -0.18589 0.0219 | 0.13771 0.0907 | 0.03484 0.6700 | 0.12204 0.1342 | -0.01402 0.8639 | -0.16901 0.0374 |
| FOVT | 0.00748 0.9271 | -0.06226 0.4461 | -0.13910 0.0874 | -0.01047 0.8981 | 0.06032 0.4604 | -0.20493 0.0113 |
| FOWE | -0.02453 0.7642 | -0.16271 0.0452 | -0.20515 0.0112 | -0.23499 0.0036 | -0.19881 0.0141 | -0.03399 0.6776 |

KEY

FO1 & FOBM = Behavior Modeling
FO2 & FOCL = Classroom Lecture
FO3 & FOCD = Computer Based Training
FO4 & FOCC = Correspondence Course
FO5 & FOIV = Interactive Video Disk
FO6 & FOOJ = On the-Job Training

FO7 & FOME = Mentoring
FO8 & FOSE = Simulation Exercise
FO9 & FOSW = Seminar/Workshop
FO10 & FOVT = Video Tape
FO11 & FOWE = Wilderness Experience

Correlation Analysis for Foresight (Cont.)

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | FO7 | FO8 | FO9 | FO10 | FO11 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|
| FORM | 0.08991 0.2706 | -0.01504 0.8541 | 0.11264 0.1671 | -0.06127 0.4534 | 0.04151 0.6116 |
| FOCL | 0.01281 0.8756 | -0.02070 0.8002 | 0.08648 0.2894 | 0.01805 0.8253 | -0.20820 0.0101 |
| FOCE | -0.20435 0.0116 | 0.01911 0.8152 | 0.02337 0.7750 | 0.05045 0.5371 | -0.11272 0.1668 |
| FOCC | 0.00123 0.9880 | -0.14523 0.0742 | -0.15538 0.0355 | -0.08639 0.2900 | -0.29564 0.0002 |
| FOIV | 0.05477 0.5027 | 0.14923 0.0684 | 0.04060 0.6189 | 0.21231 0.0036 | 0.00500 0.9435 |
| FOCU | -0.05532 0.4984 | -0.10394 0.7025 | -0.23762 0.0032 | -0.29388 0.0002 | -0.09045 0.2678 |
| FOME | 0.46834 0.0001 | -0.07585 0.3530 | -0.09933 0.2234 | 0.02273 0.7810 | -0.13442 0.0987 |
| FOSE | -0.13156 0.1062 | 0.48953 0.0001 | 0.05869 0.4726 | 0.10592 0.1041 | 0.10423 0.2015 |
| FOSW | -0.10983 0.1779 | -0.10309 0.2063 | 0.52200 0.0001 | 0.18800 0.0203 | -0.08849 0.2792 |
| FOVT | -0.09300 0.2545 | -0.11070 0.1746 | 0.07149 0.3814 | 0.46788 0.0001 | -0.00252 0.9754 |
| FOWE | -0.10133 0.2141 | -0.04544 0.5783 | -0.03500 0.6681 | -0.23317 0.0038 | 0.57117 0.0001 |

KEY

FO1 & FORM = Behavior Modeling

FO2 & FOCL = Classroom Lecture

FO3 & FOCE = Computer Based Training

FO4 & FOCC = Correspondence Course

FO5 & FOIV = Interactive Video Disk

FO6 & FOCC = On-the Job Training

FO7 & FOME = Mentoring

FO8 & FOSE = Simulation Exercise

FO9 & FOSW = Seminar/Workshop

FO10 & FOVT = Video Tape

FO11 & FOWE = Wilderness Experience

Correlation Analysis for Performance Communication

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | PC1 | PC2 | PC3 | PC4 | PC5 | PC6 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| PCBM | 0.58102 0.0001 | -0.17814 0.0281 | -0.15318 0.0596 | -0.12273 0.1320 | -0.06143 0.4520 | -0.03218 0.6939 |
| PCCL | -0.21075 0.0092 | 0.52087 0.0001 | -0.01356 0.8683 | 0.21527 0.0077 | -0.07835 0.3373 | -0.13842 0.0890 |
| PCCE | -0.12300 0.1311 | 0.01825 0.8234 | 0.33201 0.0001 | -0.01980 0.8087 | -0.01387 0.3653 | -0.03327 0.6841 |
| PCCC | -0.17950 0.0269 | 0.02421 0.7672 | -0.00588 0.9427 | 0.24041 0.0029 | -0.11617 0.1541 | -0.06079 0.4569 |
| PCIV | 0.00653 0.9364 | -0.07360 0.3673 | 0.18577 0.0219 | 0.10822 0.1945 | 0.47866 0.0001 | 0.03112 0.2642 |
| PCOJ | 0.03709 0.6501 | -0.21447 0.0080 | -0.19091 0.0185 | -0.17990 0.0266 | -0.21411 0.0081 | 0.48309 0.0001 |
| PCME | -0.04083 0.6174 | 0.04830 0.5545 | 0.05262 0.5197 | 0.03458 0.6724 | -0.08793 0.2814 | 0.19763 0.0147 |
| PCSE | -0.08306 0.2089 | -0.08910 0.2750 | 0.11811 0.1472 | 0.05190 0.5262 | 0.22081 0.0063 | 0.11035 0.1431 |
| PCSW | -0.22911 0.0045 | 0.13638 0.0927 | 0.01387 0.7704 | -0.07762 0.3419 | 0.02831 0.7292 | -0.03420 0.0001 |
| PCVT | 0.04423 0.5884 | 0.11971 0.1418 | 0.00158 0.9846 | 0.08992 0.2706 | 0.10315 0.2060 | 0.05637 0.4903 |
| PCWE | 0.01939 0.8125 | -0.21968 0.0065 | -0.21725 0.0072 | -0.24917 0.0020 | 0.16323 0.0445 | -0.03262 0.6899 |

KEY

PC1 & PCBM = Behavior Modeling

PC2 & PCCL = Classroom Lecture

PC3 & PCCB = Computer Based Training

PC4 & PCCC = Correspondence Course

PC5 & PCIV = Interactive Video Disk

PC6 & PCOJ = On-the-Job Training

PC7 & PCME = Mentoring

PC8 & PCSE = Simulation Exercise

PC9 & PCSW = Seminar/Workshop

PC10 & PCVT = Video Tape

PC11 & PCWE = Wilderness Experience

Correlation Analysis for Performance Communication (Cont.)

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | PC7 | PC8 | PC9 | PC10 | PC11 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|
| PCBM | 0.07971 0.3290 | -0.07815 0.3386 | -0.22026 0.0064 | -0.06071 0.4575 | 0.03026 0.7113 |
| PCCL | -0.08818 0.2800 | -0.11428 0.1610 | 0.27108 0.0007 | 0.04377 0.5924 | -0.17285 0.0332 |
| PCCB | -0.10344 0.2047 | 0.01299 0.8738 | -0.05600 0.4929 | -0.10523 0.1970 | -0.04901 0.5416 |
| PCCC | -0.12733 0.0203 | -0.13804 0.0203 | -0.20892 0.0098 | -0.16853 0.0079 | -0.37366 0.0001 |
| PCIV | 0.02543 0.7558 | 0.20077 0.0131 | 0.01116 0.9915 | 0.15150 0.0624 | 0.04202 0.5010 |
| PCOJ | 0.13305 0.1022 | -0.13261 0.1034 | -0.24073 0.0028 | -0.18188 0.0249 | -0.04302 0.5988 |
| PCME | 0.49327 0.0001 | -0.20282 0.0122 | -0.17504 0.0310 | -0.09796 0.2299 | -0.01697 0.8356 |
| PCSE | -0.22322 0.0037 | 0.52352 0.0001 | 0.17135 0.0343 | 0.01292 0.8745 | -0.01120 0.9111 |
| PCSW | 0.22014 0.0064 | 0.08812 0.2804 | 0.42961 0.0001 | 0.03890 0.6342 | 0.09231 0.2570 |
| PCVT | -0.00713 0.9305 | 0.02617 0.7489 | 0.12706 0.1138 | 0.49553 0.0001 | -0.02514 0.7583 |
| PCWE | -0.02170 0.7908 | -0.10701 0.1895 | -0.01359 0.9691 | -0.09729 0.2331 | 0.56335 0.0001 |

KEY

PC1 & PCBM = Behavior Modeling
PC2 & PCCL = Classroom Lecture
PC3 & PCCL = Computer Based Training
PC4 & PCCC = Correspondence Course
PC5 & PCIV = Interactive Video Disk
PC6 & PCOJ = On-the-Job Training

PC7 & PCME = Mentoring
PC8 & PCSE = Simulation Exercise
PC9 & PCSW = Seminar/Workshop
PC10 & PCVT = Video Tape
PC11 & PCWE = Wilderness Experience

Correlation Analysis for Providing Praise and Recognition

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under H₀: Rho=0 / N = 152

| | PR1 | PR2 | PR3 | PR4 | PR5 | PR6 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| PRBM | 0.60314 0.0001 | -0.11129 0.1722 | -0.09075 0.2662 | -0.07367 0.3671 | -0.04794 0.3576 | -0.13742 0.0914 |
| PRCL | -0.07153 0.3812 | 0.55978 0.0001 | 0.11101 0.1733 | 0.22777 0.0048 | -0.03984 0.6260 | -0.08604 0.2916 |
| PRCB | -0.14405 0.0766 | -0.04038 0.6170 | 0.01539 0.0001 | 0.01102 0.9928 | 0.10373 0.2034 | 0.06625 0.4174 |
| PRCC | -0.04368 0.5931 | 0.03696 0.6512 | -0.01305 0.8732 | 0.30344 0.0001 | -0.08941 0.2767 | -0.10464 0.1995 |
| PRIV | -0.06364 0.4360 | -0.01893 0.3170 | 0.14334 0.0781 | 0.04521 0.3302 | 0.48021 0.0001 | -0.03849 0.3078 |
| PROJ | -0.07291 0.3720 | -0.16779 0.0388 | 0.14963 0.0658 | -0.15201 0.0616 | -0.23727 0.0032 | 0.60327 0.0001 |
| PRME | 0.13802 0.0899 | 0.09852 0.2272 | 0.02750 0.7367 | 0.14858 0.0677 | -0.13567 0.0958 | 0.13319 0.1016 |
| PRSE | -0.20345 0.0119 | 0.02038 0.8032 | 0.08302 0.3092 | -0.02089 0.7094 | 0.13313 0.1010 | -0.03109 0.3033 |
| PRSW | -0.14368 0.0774 | 0.07280 0.3728 | -0.01813 0.8245 | -0.08692 0.2366 | -0.02691 0.7421 | 0.38967 0.0001 |
| PRVT | -0.18508 0.0221 | -0.04358 0.5940 | -0.03342 0.6827 | -0.04477 0.5839 | 0.13721 0.0019 | 0.28000 0.0000 |
| PRWE | 0.01713 0.3341 | -0.29459 0.0002 | -0.21824 0.0069 | -0.27214 0.0007 | -0.14250 0.0798 | 0.07815 0.3575 |

KEY

PR1 & PRBM = Behavior Modeling
PR2 & PRCL = Classroom Lecture
PR3 & PROB = Computer Based Training
PR4 & PRCC = Correspondence Course
PR5 & PRIV = Interactive Video Disk
PR6 & PROJ = On-the-Job Training

PR7 & PRME = Mentoring
PR8 & PRSE = Simulation Exercise
PR9 & PRSW = Seminar Workshop
PR10 & PRVT = Video Tape
PR11 & PRWE = Wilderness Experience

Correlation Analysis for Providing Praise and Recognition (Cont.)

Training Methods from Section 1 Across the Top
Training Methods from Section 1 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | PR7 | PR8 | PR9 | PR10 | PR11 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|
| PRBM | 0.02474 0.7623 | -0.15252 0.0607 | -0.03362 0.6809 | -0.05741 0.4823 | -0.06653 0.4130 |
| PRCL | 0.05025 0.5387 | -0.03096 0.7049 | 0.17745 0.0287 | 0.03941 0.6297 | -0.24194 0.0027 |
| PRCE | -0.06679 0.4136 | 0.06251 0.4442 | 0.01837 0.8222 | -0.07540 0.3553 | 0.07037 0.3089 |
| PRCC | -0.03942 0.6297 | -0.09359 0.2514 | -0.14367 0.0676 | -0.13023 0.1098 | -0.22533 0.0052 |
| PRIV | -0.16214 0.0460 | 0.18857 0.0200 | -0.03396 0.6601 | 0.13617 0.0944 | 0.03077 0.4521 |
| PROJ | 0.03080 0.7064 | -0.12390 0.1283 | -0.24331 0.0020 | -0.26419 0.0010 | 0.00106 0.9896 |
| PRME | 0.58227 0.0001 | -0.16492 0.0422 | -0.13622 0.0942 | 0.02747 0.7369 | 0.00847 0.9173 |
| PRSE | -0.21391 0.0081 | 0.50750 0.0001 | 0.20301 0.0121 | 0.05526 0.4979 | 0.06637 0.4166 |
| PRSW | -0.13533 0.0963 | 0.03374 0.5799 | 0.44621 0.0001 | 0.04812 0.5560 | 0.15199 0.0616 |
| PRVT | -0.13360 0.1008 | -0.07266 0.3737 | -0.05635 0.4905 | 0.47573 0.0001 | -0.09055 0.2517 |
| PRWE | -0.05691 0.4862 | -0.03544 0.6647 | 0.01017 0.9011 | -0.17963 0.0263 | 0.55755 0.0001 |

KEY

| | |
|--------------------------------------|-------------------------------------|
| PR1 & PRBM = Behavior Modeling | PR7 & PRME = Mentoring |
| PR2 & PRCL = Classroom Lecture | PR8 & PRSE = Simulation Exercise |
| PR3 & PRCE = Computer Based Training | PR9 & PRSW = Seminar/Workshop |
| PR4 & PRCC = Correspondence Course | PR10 & PRVT = Video Tape |
| PR5 & PRIV = Interactive Video Disk | PR11 & PRWE = Wilderness Experience |
| PR6 & PROJ = On-the-Job Training | |

Correlation Analysis for Setting Goals

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | SG1 | SG2 | SG3 | SG4 | SG5 | SG6 |
|------|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| SGRM | 0.58497 0.0001 | -0.10891 0.1817 | -0.03992 0.6253 | -0.16937 0.0370 | -0.12070 0.1385 | 0.00687 0.9330 |
| SGCL | -0.14250 0.0799 | 0.60413 0.0001 | 0.12951 0.1118 | 0.21333 0.0083 | -0.10655 0.1914 | -0.17690 0.0292 |
| SGCB | -0.06600 0.4192 | -0.03957 0.6284 | 0.32565 0.0001 | 0.01850 0.8210 | 0.18177 0.0250 | 0.04071 0.6184 |
| SGCC | -0.10415 0.2016 | 0.15727 0.0520 | 0.08728 0.2030 | 0.36666 0.0001 | 0.03134 0.7013 | -0.11756 0.1492 |
| SGIV | -0.05596 0.4935 | -0.11787 0.1481 | 0.13757 0.0910 | 0.04245 0.6030 | 0.44737 0.0001 | -0.05021 0.4512 |
| SGOC | 0.07042 0.3886 | -0.28811 0.0003 | -0.20342 0.0120 | -0.19458 0.0163 | -0.14418 0.0764 | 0.61660 0.0001 |
| SGME | 0.06033 0.4603 | -0.04241 0.6039 | -0.09870 0.2264 | -0.07364 0.3672 | -0.07406 0.3645 | 0.15781 0.0522 |
| SGSE | -0.08221 0.3140 | 0.05146 0.5209 | 0.06116 0.4542 | 0.03770 0.6447 | 0.08764 0.2330 | -0.16826 0.0302 |
| SGSW | -0.029409 0.0002 | 0.16952 0.0367 | 0.03186 0.6968 | 0.05859 0.4734 | -0.05643 0.4895 | -0.22270 0.0046 |
| SGVT | -0.12547 0.1235 | -0.06793 0.4032 | -0.11616 0.1541 | 0.07958 0.0290 | 0.03874 0.6036 | -0.08471 0.2994 |
| SGWE | -0.00707 0.9312 | -0.24263 0.0026 | 0.18090 0.0257 | -0.23494 0.0015 | 0.12030 0.1389 | -0.10495 0.1982 |

KEY

SG1 & SGRM = Behavior Modeling
SG2 & SGCL = Classroom Lecture
SG3 & SGCC = Computer Based Training
SG4 & SGCC = Correspondence Course
SG5 & SGIV = Interactive Video Disk
SG6 & SGOC = On-the-Job Training

SG7 & SGME = Mentoring
SG8 & SGSE = Simulation Exercise
SG9 & SGSW = Seminar/Workshop
SG10 & SGVT = Video Tape
SG11 & SGWE = Wilderness Experience

Correlation Analysis for Setting Goals (Cont.)

Training Methods from Section 1 Across the Top
Training Methods from Section 2 Down the Side

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 152

| | SG7 | SG8 | SG9 | SG10 | SG11 |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|
| SGPM | 0.15138 0.0627 | -0.06983 0.3927 | -0.16322 0.0443 | -0.11918 0.1423 | 0.09500 0.1440 |
| SGCL | -0.02217 0.7305 | -0.14021 0.0849 | 0.19874 0.0141 | 0.06026 0.4608 | -0.14207 0.0007 |
| SGCB | -0.03238 0.6921 | 0.04629 0.5712 | 0.04287 0.6000 | -0.12290 0.1315 | -0.10050 0.2170 |
| SGCC | -0.04317 0.5974 | -0.05941 0.4672 | -0.00612 0.9404 | 0.06664 0.4146 | -0.29435 0.0000 |
| SGIV | -0.12129 0.1366 | 0.11911 0.1439 | -0.04629 0.5712 | 0.15241 0.0609 | 0.12871 0.1140 |
| SGOJ | 0.17436 0.0317 | -0.12344 0.1297 | -0.22575 0.0052 | -0.24537 0.0023 | -0.02276 0.7807 |
| SGME | 0.51727 0.0001 | -0.13638 0.0939 | -0.09106 0.2646 | -0.11918 0.1436 | -0.13390 0.1000 |
| SGSE | 0.19595 0.0153 | 0.52501 0.0001 | 0.19219 0.0177 | 0.06392 0.4040 | 0.11214 0.1300 |
| SGSW | 0.13583 0.0552 | 0.05338 0.5136 | 0.35123 0.0001 | 0.06126 0.4534 | 0.10092 0.1917 |
| SGVT | -0.17259 0.0335 | -0.13351 0.1011 | -0.03694 0.6514 | 0.43587 0.0001 | -0.00929 0.9005 |
| SGWE | -0.18025 0.0263 | 0.02873 0.7253 | -0.10021 0.2193 | -0.10598 0.1938 | 0.56334 0.0001 |

KEY

SG1 & SGPM = Behavior Modeling

SG2 & SGCL = Classroom Lecture

SG3 & SGCB = Computer Based Training

SG4 & SGCC = Correspondence Course

SG5 & SGIV = Interactive Video Disk

SG6 & SGOJ = On-the-Job Training

SG7 & SGME = Mentoring

SG8 & SGSE = Simulation Exercise

SG9 & SGSW = Seminar/Workshop

SG10 & SGVT = Video Tape

SG11 & SGWE = Wilderness Experience

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Vita

Captain Kevin D. Illsley [REDACTED]

[REDACTED] graduated from high school in Faribault, Minnesota in 1976. He received a Bachelor of Science degree in Business from the University of Northern Colorado in 1980. He was commissioned in the United States Air Force through the Reserve Officer Training Corp on 7 June 1980. After graduation from the Supply Operations Officer course, he was assigned to the 64th Supply Squadron, Reese AFB, Texas where he served as the Materiel Support Officer, Materiel Management Branch Chief, and the Customer Support Branch Chief. On 11 May 1984, he was assigned to the Lowry Technical Training Center as an instructor in the Supply Operations Officer course. On 18 April 1986, he became the Supply Training Staff Officer at Headquarters Air Training Command, Randolph AFB, Texas. He entered the School of Systems and Logistics, Air Force Institute of Technology on 24 May 1989. Captain Illsley is a graduate of Squadron Officers School.

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| 13. ABSTRACT (Maximum 200 words) This study identifies the most effective training methods for teaching a set of human skills to Air Force supply officers. The goal is to improve the performance of supply officers so they may function effectively as Chiefs of Supply. Members of the American Society of Training and Development and the National Society of Performance and Instruction were surveyed to collect data. Eleven training methods served as the bases for this study: behavior modeling, classroom lecture, computer based training, correspondence course, on-the-job training, mentoring, simulation exercise, seminar/workshop, video tape, and wilderness experiences. Eleven human skills used in the study: acting consistently, communicating a shared understanding, emphasizing performance, enthusiasm, foresight, inspiring subordinates, introspection, performance communication, planning and organizing, providing praise and recognition, and setting goals. The most effective training methods were identified for training each specific human skill. The mentoring training method was judged the most effective method for teaching a majority of the skills. <i>Kevin Illsley</i> | | | | |
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