The Methods of Training Supervisors in the Leading Airline Companies in the Chicago Area

William Bernard Kelly

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THE METHODS OF TRAINING SUPERVISORS
IN THE LEADING AIRLINE COMPANIES
IN THE CHICAGO AREA

by

William B. Kelly

A Thesis Submitted to the Faculty of The Institute
of Social and Industrial Relations in Partial
Fulfillment of the Requirements for the
Degree of Master of Social and
Industrial Relations

June
1954
William Bernard Kelly was born in Chicago, Illinois, June 23, 1928.

He was graduated from St. Mel High School, Chicago, Illinois, June, 1947, and from Loyola University, June, 1952 with the degree of Bachelor of Science in Commerce.

From June, 1947 to September of 1948 the writer worked as a supervisor of pages at the Northern Trust Company. He began his graduate studies at Loyola University in September of 1952.
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CHAPTER I

INTRODUCTION

PURPOSE

The aim in writing this thesis was to acquire a knowledge of supervisory training methods in the airlines. It was the author's belief that the airlines concentrate their training on a two-fold objective: the development of the human relations aspect as well as the technical skill of the individual. On both supervisory and executive levels, training is directed toward two basic requirements of every business organization. These two requirements determine the over-all objectives of training. First, both supervisory and administrative personnel must be competent in their present jobs. The objective here is to develop competence in all levels of management. Second, capable persons must be available for promotion to more responsible positions as they open up. This requirement reflects the need of developing workers for further responsibilities.

HISTORY OF THE AIRLINES

Air transportation as a commercial enterprise started in 1911 with the carriage of the mail. In the beginning it was impossible for airlines to make money without the help of air mail revenue. As early as 1919 this country had what might be called
sporadic entries into the passenger transportation field. The year 1926 was of major significance in the history of air transportation because of the passage of the Air Commerce Act. This act imposed on the Secretary of Commerce the duty of fostering the development of commercial aviation in the United States. It was only one short year later that Lindbergh made the historic flight across the Atlantic. The effect this flight had on the American public was to start a nation-wide aviation boom.

Mergers and consolidations came with the collapse of the boom in 1929. One year later the McNary-Watres Act gave a boost to the sagging airlines by providing for a payment of so much per mile, rather than so much per pound, for mail carried.

The Civil Aeronautics Act passed in 1938 stands out as the most significant piece of legislation in the history of American Air Transportation. For the first time economic and safety regulations, previously divided among several agencies of the government, were now vested in one government agency. The importance of this to air transportation was great, for in no industry subject to federal legislation is there such a close interdependence between the economic welfare of the industry and the safety of its operations as in the aviation industry.

Provision was made for qualified carriers desiring to open new routes to obtain certificates upon proper application to the authority. The following quotation from a Civil Aero-
nautic Authority opinion handed down in 1940 indicates the considerations governing the granting of such certificates:

The authority, in determining whether the inauguration of a new service will result in carrying out the objectives of the act...must...consider not only the need of the community or section for the proposed operation, but also the relationship which such service bears to the development of a nationally adequate and economically sound air transportation system from the broad standpoint of the Postal Service, Commerce and the National Defense.¹

Under the Civil Aeronautics Act, the government makes every effort to prevent the establishment of new airlines which might not be economically justified and so able to pay their way with reasonable help from the government in the form of payments for carrying of the mail.

In 1940, the President, by executive order, did away with a separate Civil Aeronautics Authority and placed administration of the Act under the jurisdiction of the Department of Commerce. During the latter half of that year, there occurred three serious airline crashes, each causing many deaths. The 1940 change had cancelled out an Air Safety Board which had not been accountable to members of the Authority. The Safety Board's function was to investigate accidents and make recommendations

¹ Hugh Knowlton, Air Transportation in the United States, Chicago, 1941, 14.
that would prevent similar accidents.

Air transportation is still an infant industry. Its stock in trade is speed. It must deliver more speed than its competitors in order to survive. Since the airlines are in such a competitive position, there are certain influences which might favor one over the other. Well trained and efficient employees reflect the well being of the company and this factor will show itself in the employees dealings with the public. How does the employee give the desired service to the public? The answer, of course, is in the training given the employee. It is the people that perform this function who are back of the success or failure of an employee on the job.

The largest single group of employees in the airlines are the office workers, who number 27,939. The total number of people now employed by the airlines in all phases of operations, amounts to 79,686.

METHODS

The following nine airlines were selected as the basis for this study because they are considered by the Chamber of Commerce as the leading airlines serving the Chicago area: American Airlines, Braniff International Airways Inc., Capital Airlines,
Delta-Chicago and Southern Airlines, Eastern Airlines, Northwest Airlines, Trans-Canada Airlines, Trans-World Airlines, United Airlines.

A letter, with the preliminary questionnaire shown in Appendix I, was sent to the training directors of the nine airlines as an aid in securing an interview. Personal visits were used to gather additional information whenever this was possible. In this way any question of either the writer or the respondent could be cleared immediately.

Due to the nature of airline operations, with their wide-spread branches, correspondence with the central offices of some of the airlines and questionnaires had to be relied upon for much of the information.

Responses were received from eight of the nine leading airlines.

Northwest, Trans-Canada and United Airlines gave the writer complete details of their programs for training supervisory personnel.

American Airlines felt that they were not in a position to give much information because they are in the process of "formalizing their program in all its phases."

Braniff International Airways does not have a supervisory training program.

Capital Airlines was unable to give the necessary de-
Due to the merger of Delta and Chicago and Southern Airlines in May of 1953, they are now in the process of integrating many of their former policies. They have no formal supervisory training program, but they consider that certain levels of supervisors are constantly receiving on-the-job training. The methods used vary according to the needs of the individual departments. The company feels that through proper delegation of duties and responsibilities they are obtaining satisfactory results, and are thus able to maintain their policy of filling most of their supervisory jobs by promoting from within the company.

Eastern Airlines is the only airline that did not respond to requests for information.

**DEFINITIONS**

The term *supervisor* is used to mean one who oversees and directs the work of others according to policies laid down by management, and who is responsible for the efficient accomplishment of management's objectives.

The *Human Relations Aspects* deal with the worker's feelings toward and relationships with others in carrying out his duties and responsibilities in the organization.

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CHAPTER II

TRAINING PROGRAMS OF THE LEADING AIRLINES

The training at the supervisory management level is provided by the training programs which have as their objectives the presentation of basic supervisory concepts and workable methods for putting them into effect, the bringing about on the part of the supervisor of a better understanding of his relations to management and employees and of what is expected of him as a supervisor.

No effort has been made to break down the training of supervisors according to organizational level. The reason for this is that this study is concerned only with the first line or unit level of supervision. The supervisor's job is basically the same regardless of the type of business or industry concerned. Each supervisor is expected to carry out the basic functions of organizing, planning, commanding, controlling and improving. The difference being in the degree of responsibility and authority rather than in the functions performed.

First level supervisors are men and women with less supervisory experience and perhaps with less native ability than top executives. The training given to first level supervisors
is limited in scope, concentrated on fundamentals and illustrates principles with examples from the supervisor's jobs.

Actually, differences in training programs and methods on the various levels of supervision are not as significant as the titles might suggest. No matter what the level, supervisors are all working with men, materials and time. The same basic functions are performed on all levels, for in reality, it is only the situation in which they are that differs.

Length of Operation

Table I reveals that all of the training programs have been in existence for at least four years, three of them for five years and one for twelve years.

Methods

Each one of the companies has set up special training courses. Conference leadership is employed by three of the five airlines studied in Table I. Other methods are lectures by staff members, representatives of universities and attendance at various outside conferences. Details of the techniques used by the airlines will be discussed at greater length in Chapter III.

Size of Group

The maximum number of trainees for each session seems to be eleven to fifteen people, with the exception of United Airlines which prefers about fifteen to twenty people and Trans-Canada who feels that six to ten people are the best size for training purposes. For some material American Airlines also
prefers a smaller group of six to ten people.

Mixing of Levels

The consensus among the training directors is that separate sessions for different levels of management employees are most effective. However, American and Trans-World Airlines do combine all levels of management.

Instructors

The instructors are generally from the training department. The only exceptions to this are Northwest and United Airlines who use the services of faculty members of various colleges as added members of the training staff.

Directors

Training directors are without exception treated as staff people. In this capacity they are advisory and their main duty is to gather the needed information for the line to use.

Sessions

The training sessions are all leader-centered, that is, the leader decides what topic is to be discussed. United Airlines, however, is the only one having in addition an intergroup conference where the participants themselves decide on the subject matter to be discussed.

Facilities

All of the airlines make use of the conference room for training purposes. American Airlines uses the supervisor's office in some situations. Northwest and Trans-World Airlines
use the plant facilities in addition to the conference rooms. 
United Airlines uses hotels and schools in addition to the above facilities.

**EXTENT OF COVERAGE**

Of the companies previously mentioned, only Trans-Canada, United and Northwest Airlines gave the writer detailed information on their supervisory training program. The information contained in Table II was obtained from personal interviews with the training directors of these airlines.

**AIMS**

Northwest Airlines main purpose in training supervisors was two-fold. The initial aim was to help the present supervisors do a better job, to broaden their outlook and to help them carry out their responsibilities. The second aim was to help the new supervisor learn the fundamentals of supervision.

Trans-Canada Airlines emphasizes the idea of keeping the employee informed about the operations and functions of the company.

United Airlines main purpose in training supervisors is to help them become better leaders through consideration of the human relations elements in jobs. Mr. Kain of United Airlines stated it this way: "We encourage personal development and self improvement of the participants and provide a setting in which ideas and experiences can be shared and evaluated."
**Orientation**

In the orientation phase of the supervisory training methods program, Northwest Airlines provides the supervisor with an understanding of the job of management as a basis for their further development as a member of the management team. Covered in this initial training period were: the functions and inter-relationships of branches within the organization, company policies, procedures and plans.

At Trans-Canada, they stressed on-the-job training methods. The company believes that the best qualified to teach this work are the ones doing the job. The employee's basic orientation is received through his relationship to his immediate supervisor and his fellow workers. The technical aspects of the job were given by those skilled in the work. The human relations aspects were taken care of by a three-weeks intensive course given in the home office at Montreal. This program was supplemented by attendance at American Management Association conferences. The training school in Montreal also conducts a course on company history, organization and procedures.

At United Airlines, an orientation phase is given every person in which he receives and indoctrination manual. This manual describes the operations of the company, its history, policies and procedures. The instructor works from an outline set up by the education and training department.
Management Conferences

Northwest Airlines' management conferences were aimed at aiding experienced supervisors in developing skill in applying the fundamentals of management: personal development, human relations, management principles, basic economics and job training.

Trans Canada's home office at Montreal gives a three week's intensive course intended to help the supervisor solve human relations problems that arise in day-to-day activities.

United Airlines gives two management conferences: Basic Management I aimed at helping the new supervisor and Basic Management II to aid the older supervisors in doing their jobs better. Topics discussed in these conferences are: qualities of managers, principles of human behavior, basic economics, labor-relations, problem-solving, methods-improvement, and other supervisory techniques.

Special Conferences

Only United Airlines uses this method of training, as a follow-up and to supplement other types of training.

Skill Training

Union apprenticeship programs provide the training required for skilled craftsmen in Northwest and Trans-Canada Airlines. In Northwest Airlines a man must pass a test to prove his skill or adaptability.
Trans-Canada was also governed by union rules. The company provides the training to enable the individual to pass the test.

United Airlines skill-training is given by the Education and Training Department located in San Francisco. Familiarization with new equipment and the training required to pass the civil aeronautics licenses are examples of skill training given there.

**TRAINING MATERIALS**

Northwest Airlines has developed a company manual as the basis for training supervisors. The descriptions of functions to be performed are found there. Films are used to supplement the reading material.

Trans-Canada also uses training manuals. The conference leaders are brought into a Sales Analysis Institute in Chicago and there secure help in preparing their manual materials. Trans-Canada also makes use of educational films.

United Airlines uses conference sessions at which case problems, films, tape-recordings, development projects, viewgraphs, charts, transparency overlays, mock-ups and nemo trainers are also used. The mock-up is a cut-a-way version of a plane used for demonstrating purposes. The nemo trainer is a cockpit, nose and frontal part of a plane in which actual flying conditions can be simulated on the ground.
At Northwest Airlines, lectures and conferences are used for training. The lectures impart information, and the conferences are designed to promote discussions of current problems. It was felt that this procedure helps to avoid any stilted sessions and keeps them more interesting and flexible.

Trans-Canada uses formal classroom work and special training courses, such as the Sales Analysis Institute on Human Relations, and lectures by staff members supplemented by training guides. Their home office in Montreal has developed a Training Aid Handbook which contains all the information needed to train each new group. They also use on-the-job training.

United Airlines holds informal sessions, consisting of from ten to fifteen people in Cheyenne. These are conducted by the conference type method and last for five days. Case problems, guest instructors, role-playing, films and other training aids are used. This program has been organized and is conducted by the Education and Training Department. Manuals with visual aids are used in these sessions. Harvard and Stanford Universities are two of the institutions of higher learning that have been relied upon for further specialized training.

PROGRAM PARTICIPATION

Northwest's program is set up to give initial management training to the lowest levels of supervision. Division
heads decide which individuals shall attend such training sessions. Department heads did not attend any of these sessions.

Trans-Canada's district managers determine who will participate in each training session. All supervisors are given refresher courses in the best methods of dealing with human relations problems.

Nomination of the immediate supervisor determines which of United's supervisors shall be considered for participation in each training program. All members of management are eligible to take part in local training when it is considered to be uniformly beneficial to all. Once an employee has been nominated to attend a training session, he is screened first by the vice-president in charge of personnel and then by the president.

SCHEDULING

Northwest's program is scheduled with short series of sessions. The training department consults with the division heads to set up the programs.

Trans-Canada has a cycle of sessions that is followed year in and year out. Each district office determines when their men will participate.

United schedules their training sessions from November to May. Since May, June and July are the busiest months, training is not given during those months. The training sessions are usually held for one week affairs, except those held at Harvard
are three months in duration.

INSTRUCTORS

Northwest Airlines uses members of their own training department staff as Instructors, assisted by representatives of the Industrial Relations staff of a nearby university.

Trans-Canada's instructors are usually the men on the job. At each field office, the employee's immediate supervisor is his trainer. At the central office, however, the trainers were specialists in the training department. Trans-Canada has a Director of Management Development who reports directly to the executive vice-president. His sole duty is to train new executives. More and more, Trans-Canada is trying to get these top executives from within their own organization.

United Airline's instructors also come from the ranks. Some were educators, others were outstanding supervisors who are trained in conference leadership. The instructors used for training those employees beyond a certain level of management are, of course, more specialized. Members of management making more than eight thousand dollars are often times removed from their line positions and put in training positions for as long as six months of the year.

PROGRAM EVALUATION

At Northwest Airlines, they use the subject-reaction questionnaires, verbal-reactions of instructors and records-of-
participation. Since their program has been in effect for twelve years, there has been ample time to evaluate its effectiveness.

Trans-Canada's program has been in effect only four years. During this time, from two to three hundred supervisors have been given questionnaires asking them to comment on their training. It was hoped any defects might be pointed up by such a questionnaire. Some helpful criticism was received, but none which indicated a need to change the program.

While United Airlines have their own Industrial Engineering Group to evaluate the overall personnel program, they have not yet worked on the training aspects. Questionnaires have in many cases been informative, and records of participants are also used to see how well they are progressing since the training.

**TRAINING FACILITIES**

Northwest and Trans-Canada each use a special conference room, at district headquarters, for their main training work.

United Airlines, on the other hand, has many such facilities across the country. The conference rooms for the technical training is carried on in San Francisco, the public contact and field work in Cheyenne and the local management training is done on the job. The top executives are trained at Harvard in the East and Stanford in the West.

**LONG RANGE PLANS**

Northwest's attitude on the future of supervisory
development is expressed in the following objectives: to expand and blend their present supervisory training into broader supervisory development, and finally into management development.

Trans-Canada's long range objectives are: to have a group of well informed and happy employees; to develop higher efficiency among workers and to produce a reserve of competent executives.

United Airlines wants to improve individual initiative, develop well rounded executives with broad training and stimulate sufficient interest in the employees to have them show a desire for personal development.
### Table I: Comparison of Supervisory Development of the Leading Airlines

<table>
<thead>
<tr>
<th>Training Program</th>
<th>American Airlines</th>
<th>Northwest Airlines</th>
<th>Trans-Canada Airlines</th>
<th>Trans-World Airlines</th>
<th>United Airlines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td>Formal</td>
<td>Formal</td>
<td>Formal</td>
<td>Formal</td>
<td>Formal</td>
</tr>
<tr>
<td><strong>In Operation</strong></td>
<td>5 years</td>
<td>12 years</td>
<td>4 years</td>
<td>5 years</td>
<td>5 years</td>
</tr>
<tr>
<td><strong>Methods</strong></td>
<td>Special training courses</td>
<td>Special training courses</td>
<td>Special training courses</td>
<td>Special training courses</td>
<td>Special training courses</td>
</tr>
<tr>
<td></td>
<td>Conference Leadership</td>
<td>Conference Leadership</td>
<td>Lectures by Staff</td>
<td>Conference Leadership</td>
<td>Lectures by Staff, Professors</td>
</tr>
<tr>
<td><strong>Size of Sessions</strong></td>
<td>6-10 depending on subject matter</td>
<td>11-15 people</td>
<td>6 to 10 people</td>
<td>11 to 15 people</td>
<td>15 to 20 people (18)</td>
</tr>
<tr>
<td><strong>Mixing of Different Levels</strong></td>
<td>Combined sessions for members of Management</td>
<td>Do not mix levels</td>
<td>Do not mix levels</td>
<td>Combined sessions for various supervisory levels—excluding top executive</td>
<td>Have separate sessions for each group</td>
</tr>
<tr>
<td><strong>Instructors</strong></td>
<td>Staff or line executives—as appropriate</td>
<td>Training Department, Line Executives, Colleges</td>
<td>Training Department</td>
<td>Training Department</td>
<td>Training Department, Line and Staff, Harvard U</td>
</tr>
<tr>
<td><strong>Directors treated as</strong></td>
<td>Staff member</td>
<td>Staff</td>
<td>Staff</td>
<td>Staff</td>
<td>Staff</td>
</tr>
<tr>
<td><strong>Sessions are</strong></td>
<td>Leader-centered</td>
<td>Leader-centered</td>
<td>Leader-centered</td>
<td>Leader-centered</td>
<td>Inter-group</td>
</tr>
<tr>
<td><strong>Facilities</strong></td>
<td>Conference rooms or Supervisor's office</td>
<td>Conference rooms or plants</td>
<td>Conference rooms</td>
<td>Conference rooms or plants</td>
<td>Conference room, Hotels, Plant, Schools</td>
</tr>
</tbody>
</table>
## TRAINING PROCEDURES
### OF THE AIRLINES

<table>
<thead>
<tr>
<th>TRAINING PROCEDURE</th>
<th>NORTHWEST AIRLINES</th>
<th>TRANS-CANADA AIRLINES</th>
<th>UNITED AIRLINES</th>
</tr>
</thead>
</table>
| **I. AIMS**        | Help present supervisors  
1. do a better job  
2. take on more responsibility  
Help new supervisors in fundamentals of supervision | Keeping supervisor informed as to the operations and functions of the company | Help supervisors in becoming better leaders through consideration of human element in jobs |
| **II. SUBJECT AREAS** | Provides supervisor with understanding of job of management, basis for further development as member of management | Basic orientation received on the job | Explains operations of company, its history, policies and procedures |
| **A. Supervisory training methods**  
1. Orientation |  |  |  |
<p>| <strong>2. Management Conferences</strong> | Aimed at aiding experienced supervisor in developing skill in applying fundamentals | Human Relations Conferences intensified by &quot;Home Week&quot; in Montreal | Topics discussed: Principles of human behavior, Basic Economics, Labor Relations, Problem Solving, Methods Improvement and Supervisory Techniques |
| <strong>3. Special Conferences</strong> | Not used | Not used | Follow-up and compliment other sessions of training |</p>
<table>
<thead>
<tr>
<th>TRAINING PROCEDURE (CONTINUED)</th>
<th>NORTHWEST AIRLINES</th>
<th>TRANS-CANADA AIRLINES</th>
<th>UNITED AIRLINES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B. Skill Training</strong></td>
<td>Governed by union apprenticeship regulations</td>
<td>Union apprenticeship regulations</td>
<td>Administered by Training and Education Department in San Francisco, such as, familiarization with new equipment, training for Civil Aeronautics Licenses</td>
</tr>
<tr>
<td></td>
<td>Must pass tests for advancement</td>
<td>Licenses, etc.</td>
<td></td>
</tr>
<tr>
<td><strong>III. TRAINING MATERIALS</strong></td>
<td>Company manuals</td>
<td>Training manual, educational films, tape recordings</td>
<td>Case problems, films, tape recordings, development projects, viewgraphs, charts, transparent overlays and many more</td>
</tr>
<tr>
<td></td>
<td>Films</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IV. TRAINING METHODS</strong></td>
<td>Lectures, conferences, discussion groups</td>
<td>Formal classroom work, Special training courses, Attending Institute on Human Relations</td>
<td>Conference type method, Role-playing, Two basic courses, Basic Management I, Basic Management II, Training at Harvard and Stanford University</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>V. PARTICIPATION BY</strong></td>
<td>Initial management trainees</td>
<td>All supervisors at one time or another</td>
<td>All members of Management</td>
</tr>
<tr>
<td>TRAINING PROCEDURE (CONTINUED)</td>
<td>NORTHWEST AIRLINES</td>
<td>TRANS-CANADA AIRLINES</td>
<td>UNITED AIRLINES</td>
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<tr>
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<td>----------------</td>
</tr>
<tr>
<td>VI. SCHEDULING OF SESSIONS</td>
<td>Planned in short series</td>
<td>Definite cycle of sessions</td>
<td>November through May (one week for each course)</td>
</tr>
<tr>
<td></td>
<td>Division heads consulted</td>
<td>year in and year out</td>
<td></td>
</tr>
<tr>
<td>VII. INSTRUCTORS</td>
<td>Training Department Representative of University Industrial Relations Staff</td>
<td>At field offices—immediate supervisor At central office—specialists</td>
<td>Some come from the ranks, others are educators, outstanding supervisors trained in conference leadership</td>
</tr>
<tr>
<td>VIII. PROGRAM EVALUATION</td>
<td>Subject reaction questionnaires Verbal reports of instructors Records of participation</td>
<td>Questionnaire used to check on merit of training program</td>
<td>Questionnaire reactions have been used Records of participation</td>
</tr>
<tr>
<td>IX. TRAINING FACILITIES</td>
<td>Conference rooms or supervisor's office in district headquarters</td>
<td>Conference rooms in district headquarters</td>
<td>Conference rooms for technical training in San Francisco public contact work in Cheyenne Local management trained on the job</td>
</tr>
<tr>
<td>TRAINING PROCEDURE (CONTINUED)</td>
<td>NORTHWEST AIRLINES</td>
<td>TRANS-CANADA AIRLINES</td>
<td>UNITED AIRLINES</td>
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<td>X. LONG RANGE PLANS</td>
<td>To expand and blend present supervisory training into the broader supervisory development, hence into management development</td>
<td>To have well informed and happy employees Produce higher efficiency To have a reserve of competent executives</td>
<td>To improve individual initiative Provide broader and more rounded executives To elicit desire in individuals for personal development</td>
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CHAPTER III

TECHNIQUES OF SUPERVISORY TRAINING

Among the techniques that are receiving attention by the airlines studied, as a tool to make training more effective, the conference method is the most important. It is most useful when the trainees already know principles and need only reminding; or when the purpose of the training is to encourage supervisor participation and discussion rather than to teach or to arrive at any particular conclusions.

The main weakness of the conference method has been its use for free discussion, having no particular reason for its existence.

Trans-Canada, which has branches scattered around the country, uses the "Home Week", during which supervisors from the various branches meet at the central office for a review of company policies and practices. These visits are intended to keep supervisors abreast of new developments and to lessen the gap between top and middle management.

The case-problem method, which is used extensively in law schools, has found its way into the training sessions. The airlines feel that this approach stimulates the supervisors and, above all else, it is more realistic. The discussion concerns
the actual happenings presented in the case instead of imaginary, thought-up, stilted situations.

The one obstacle to the above approach cited by the training directors is the scarcity of case material adaptable to supervisory meetings. The two most recent additions to the literature which provide them with practical case problems are the following: The Administrator: Cases on Human Relations Problems, by Glover and Hower of Harvard University, and Problems in Labor Relations, by Selekman, Selekman and Fuller of Massachusetts Institute of Technology.

A technique being used by Trans-Canada and United Airlines is role playing. Planty, McCord and Efferson in their book Training Employees and Managers define role-playing as "the dramatization of work situations in which supervisors in the class play the roles of actual participants."¹ This method supplements the conference method in that it provides the supervisor with the opportunity to practice what he has learned.

Advocates of this technique feel that it provides practice in handling situations. They point out that there is too wide a gap between the theory of how to handle a situation and

actually knowing how and handling it.\textsuperscript{2} Opponents to this method believe that it has no real value because a note of artificiality exists in playing the parts of other individuals with whom one has little in common.

The analysis that follows the playing of the various parts is the most important part of the technique. The participants have the opportunity to criticize their own performances, suggesting what they might change if they were to do it again. The entire group discusses the roles to enable them to pick out the good and bad points in the way the roles were played. Usually the leader will get the supervisors to replay their roles in order to try to eliminate the weaknesses and to develop the best approach to the situation.

Visual aids are frequently used to supplement other techniques. All of the airlines contacted use visual aids of one sort or another. Charts and illustrated manuals are used quite extensively by United Airlines in their indoctrination classes. They seem to use all forms of visual aids, from films to mock-ups. Training films made by United are even used commercially for advertising purposes. Opaque projectors are used

\textsuperscript{2} A Dartnell Report, Trends in \underline{Supervisory Development}, 1952, cited the case of Johnson and Johnson, who have made extensive use of role-playing with real success, even to the extent that line managers use it informally with their subordinate supervisors.
because they often prove to be a good substitute for expensive art work. United has also developed a set of sound-slide-films for use in the training of new supervisors.

Most of the training directors on the airlines studied feel that classroom instruction must be accompanied by on-the-job training which guides the supervisor in applying the principles learned in earlier programs. The supervisor's training cannot stop once a particular course is over or once he has gone on to his job. Unless he puts into practice what he has learned, supervisory training will be of little use.
CHAPTER IV

UNITED AIRLINES SUPERVISORY PROGRAM

The comprehensive character of United Airline's supervisory training program embodies almost all types and methods of training being carried on by any of the other airlines. The writer feels that it is worth while to give a more detailed account of their program. Throughout the chapter, the other airlines will be cited as using some of the methods employed by United Airlines.

United Airlines Education and Training Department places emphasis on the following factors:

1. The development of broad knowledge and understanding, thus preparing men to treat problems with a view to the welfare of the entire organization.

2. Adaptability to new requirements and conditions. Tied up with adaptability are versatility and flexibility, which enable the supervisor to deal with varying problems in terms of existing facts and conditions.

3. Development of creative ability, imagination and foresight in keeping with increasing demands and
opportunities.

4. Development of a sense of social responsibility to the community and nation.

Supervisory training comprises four areas: human relations skills, administrative skills, company information and technical skills. In line with the overall objectives mentioned above, the airlines training programs have the following aims:

1. To increase the supervisor's understanding of the part human relations plays in supervision.
2. To give supervisors a better understanding of their duties.
3. To encourage supervisors to undertake a continuous program of self-improvement as mentioned in United Airlines aims.
4. To prepare supervisors for more responsible positions by proper training and experience as typified by Northwest's long range aims.

Human Relations Skills

The vital need to develop increasingly constructive attitudes on the part of supervisors in regard to human relations is shown in the manuals of the airlines. Advances in engineering and technology have little value unless employees willingly accept new methods and new machines. There are many staff experts in the airlines, but it is up to the individual
supervisor to satisfy the needs of the people on the job. North-west Airlines supervisor's handbook shows the difference between the leader and the boss. This shows the recognition by the airlines of the changing place of supervisors.

Training workers to meet the needs of human relations involves a number of subjects. Two of special importance are:

1. "Psychology of Human Behavior"—this course provides the psychological basis for all subsequent sessions on the handling of people. The principal ideas developed are:

   (a) Motivating drives of people—drives for security, for recognition, for belonging, for new experiences and for activity.
   (b) Every person is an individual, motivated and responding to situations in his own concept of needs and rights.
   (c) Individual ego has developed throughout each workers' own experiences.

2. "Psychology of Communications"—this covers the application of psychological principles to the communications process, problems and barriers of communications and techniques of communication.

These courses, and others, are summarized in booklets which are given to the trainees.

Administrative Skills

Every supervisor is an administrator and must employ administrative skills as well as principles if he is to have a coordinated, smoothly functioning organization. United Airlines has a course entitled Basic Management II "which provides supervisors with assistance in the development of new or improved administrative techniques or relationships, and provides a setting for sharing and evaluating management skills and conferences." Among the most important subjects presented in United's program are:

1. Duties and Responsibilities of Supervisors—a conference type session which makes supervisors aware of their duties. The conference deals with the functions of supervision, namely, planning, commanding, controlling and improving. The discussion seeks to have supervisors acquire information that will help him in his work.

2. Principles of Industrial Organization—this conference presents the types of organization, line, staff and functional, and shows how a staff or service department may be used most effectively.

Other sessions deal with management development, employee relations, dynamics of human behavior, labor relations, economics and finance, problem solving and management techniques. These sessions are conducted by the Education and Training Department in Cheyenne, Wyoming.

Company Information

Every supervisor must be familiar with the policies, plans and procedures of the company for which he works. The elements of discord in many departments arise from this very point. At United there are Personnel Representatives to settle any such difficulties. It is of the utmost importance for supervisors to know and understand policies if they are to interpret them correctly. Some typical conferences are:

1. Company Rules, Regulations and Services—Every new employee at United Airlines is handed a manual which explains the company rules, regulations and services. These sessions during the orientation period of training attempt to provide supervisors with information on how to plan the further induction of new employees.

2. Union Relations—Since a great part of the airlines are under union regulation, supervisors must know and understand the provisions of the contract. Of course, United has a legal staff for the difficult
parts of the contract. The supervisor handles the day to day contacts.

**Technical Skills**

Technical training is an important phase of the supervisor's training. It can be given either by line management, by technical schools and universities, or by qualified personnel from within the organization. United Airlines has an Education and Training Department in San Francisco set up to fulfill this need. At the University of California in Berkeley, supervisors are skilled in handling people and also the technical phases of handling their job. It is an established policy at United to have a high executive, at some time or another during the year, leave his line position and instruct supervisors in his particular field.

Northwest Airlines, as well as United and Trans-Canada Airlines, all agree on the importance of flexibility in their programs. Courses of every nature are available to those desiring to learn. United Airlines has the feeling that it is up to the individual to manifest any desires for self improvement.

A large part of training in the area of technical skills takes place through a plan in which the supervisors attend courses related to their jobs at nearby universities and colleges, with the company paying all or part of the fees. All university fees are contracted by the Education and Training Department of Loyola University.
United Airlines and paid by the company in a lump sum.

Training Techniques

1. Management Conferences—"these conferences are for the purpose of making sure that the company's management group understands policies and procedures."\(^3\)

2. Staff Meeting—one of the most common practices in industry is important in United Airlines program. "The skilled leader is alert to possibilities that will confront him, and he seeks to provide practice for those who want to know what to do but lack the experience."\(^4\)

3. Case Assignments—a device of assigning work for the purpose of developing knowledge and skill of promising supervisors. In the courses offered by the Education and Training Department, assignments are given to test the ability of the participants.

4. Lectures—are the most often used procedures in training. Courses that are designed in giving broad knowledge of a subject are the best suited

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4 Management Development: Case Studies, Prepared by Metropolitan Life Insurance, 1950, 35.
to the lecture type technique.

5. Conferences—the conference method of training main purpose is the sharing of experiences of those participating. The method used the most at all of the airlines is the directed conference, in which objectives are set, agenda prepared, and the conference leader directs discussion toward a certain goal. Only at United Airlines has the writer found that the non-directed type of conference was in use. In this type of conference, no goals are set, but the discussion is left to those in the group.

6. Role-playing—first introduced by Dr. Moreno bridges the gap between the conference and the daily work situation. Of the airlines studied this technique along with the conference method seemed to be the most commonly used. Role playing allows the participants to act out the various situations in which a supervisor may find himself. Although it is not the actual thing, the practice afforded by it brings out the same human factors, and obstacles that are present in the work situation.

7. Case Studies—used to present business situations and problems which supervisors and executives are actually confronted with on the job. The prim-
ary aim of this method is to develop in the supervisors the ability to recognize and solve problems. Trans-Canada and United Airlines use this method as a supplement in their training sessions. The best case studies introduced thus far are those of Glover and Hower of Harvard University in their book entitled The Administrator: Cases on Human Relations in Business.

**United Airlines Experiment**

United Airlines experiment deals with an employees' attitude survey. This program which was developed by the University of Chicago is called the "SRA Employee Inventory". This survey was intended to bring to light the problem areas which impair the over-all efficiency and quality of the company.

The survey showed that employees in one classification still felt they had not been treated justly. They told management that they should examine the competency and effectiveness of their supervision.

As Mr. Ahrens, Personnel Director of United Airlines, said, "The fact that we know how they feel is important to us because now we can go in and face the problem... Employees' opinions may be wide of the mark, but you cannot do anything to change their opinion until you can find out what their opinions
United Airlines, in attempting to meet the needs of its employees, has set up what is called "The Personnel Development Program". This program is designed to accomplish the following objectives:

1. Know and record interest and abilities of employees.
2. Determine potentials of work force.
3. Assure qualified employees of a fair consideration for other opportunities or promotion on a competitive basis.
4. Provide a counseling service for employees so that they will know their status.
5. Provide a service to supervisors so that they might improve their effectiveness in personnel management by working with them in evaluating their employees so that they will have a better understanding of the temperamental characteristics, aptitudes, abilities, skills, etc., of each employee. This will make it possible for the supervisor to become more effective in his training, counseling and supervising.
6. Assist in selection of employees for company sponsored training.
7. Establish a sound, workable promotion plan.
8. Establish an effective reallocation program to get the right people in the right jobs.

The method of administering this program involves the patterned interview method. Using the questionnaire and all known facts, the interviewer discusses the employee's job interests, qualifications, future aims and possibilities of attain-

6 Ibid, 6-7.
ment. Dependent upon the findings, the employee is advised along the following lines:

Some will be told:
(a) You are qualified for promotion but must be considered on a long-term basis and advised that you are on a competitive basis with others.

Other cases will call for advice of this type:
(b) You do not appear fully qualified for the position and then it is suggested that you do certain things, (list)

Some must be told:
(c) You are so short on qualifications that we believe you will have a difficult time in preparing yourself for the job you are interested in. 7

After this interview, an overall evaluation is completed and this includes the recommendations of the personnel department. If a course of action is indicated, the file is reviewed with the placement committee. Decisions are then made and follow-up action is determined.

Mr. Ahrens believes that this type of program is improving all supervisors in the company. For a number of years he said, "we have been conducting management conferences for all levels, including those employees who are just becoming supervisors for the first time. These conferences are for the purpose of making sure that the company's management group understands

7 Ibid, 8.
policies and procedures." 8

This program is considered by United Airlines, to be far more extensive than a mere training program, and they refer to it as "education". United makes wide use of universities to conduct their programs. In 1952 they sent forty-five of their management people to the University of California for a week's course on "Human Behavior". The men who attended it felt, according to Mr. Ahrens, that they received a great deal from it. United Airlines is convinced of their worth and to prove this have continued to send men to the University of California. In a period of three to four years, United hopes to receive a great deal of education about people and about the latest techniques in handling people. It has been estimated by Mr. Ahrens that within the next two years there will have been two to three hundred supervisors who have participated.

Mr. Ahrens feels that the airlines can gain a lot by participating in college and university programs and by using their instructors and facilities to bring the supervisors up to date on the latest developments. United Airlines does not believe in letting their supervisors get out of touch and they are making every effort to provide them with some educational oppor-

8 Ibid, 9.
tunities so they will have the benefits that were not available to them when they were in school.

To quote Mr. Ahrens, the problems faced by the airlines and the approach to them are as follows:

Social progress and technological progress are creating new problems in industry. The problems are caused because the new methods affect the social and economic life of individuals.

We, in personnel, have the responsibility of considering the employee as an individual. We must consider him as a whole individual and not just as a necessary part of a machine.

We believe that the only way to improve productivity is to treat the employee as an individual person. If new methods and machines are put into operation gradually, individuals are given time to accept them and productivity will improve. If radical changes are attempted overnight, employees will become apprehensive and worrisome and morale will drop. Employees will seek ways and methods to stop the increases in productivity. We can advance no faster than our employees are capable of accepting new methods and techniques.

Psychologists believe we could double our productivity in America if all of our people were placed in jobs which best suited them. In other words, if we think of the employee as an individual, and think of placing him in a job where he will be happiest, we have an opportunity to increase productivity in a relatively short time. But if we think of increasing productivity without considering the individual, we can go up at about the rate of $2\frac{1}{2}\%$ only a year.\(^9\)

The above address on Personnel Administration by Mr. R. F. Ahrens, Vice-President, Personnel, United Airlines, is

\(^9\) Ibid, 10-11.
indicative of the feeling of the training directors of all of the airlines contacted. The individual, more and more, is gaining recognition in the race between technological and sociological improvements. The technological improvements affect the individual from the economic standpoint. If machines become more productive, it follows that less human effort is needed to produce more of the product. The individual who is not satisfied because the work does not challenge him is also fearful of the time when the machine will completely replace him.

In United Airlines, the personnel department is trying to develop and use the best tools which will give them the most reliable information about their employees. There is a desire on their part to know about the abilities, interests and desires of their employees; and they want their management people to know as much about the behavior of human beings as possible.
SUMMARY AND CONCLUSIONS

In summary it should be said that the training programs in the airlines are designed with a two fold aspect in mind. The first of these concerns the present supervisor and how the company can better adapt him to do his present job. The second aspect is to instruct the new supervisor to do his new job.

The airlines participating in this study do everything possible to help their supervisory people to do their job. The techniques of training and the subject in the training program reveal that the individual is kept in mind above even the technical aspect of the job.

Just as a house needs a firm foundation upon which to rest, so it is with a training program. To weather the storm of daily trials, it must have a solid foundation. This foundation can only be found where the men on the job are treated as individuals and not as part of a machine. Only with men schooled in the rudiments of human relations can a training program meet its final goal—the development of men by their own efforts.

The writer started out to prove that the objectives of supervisory training were the development of the human relations aspect as well as the technical skill of the individual. During
the course of the interviews with the training directors of the airlines, these objectives were brought out constantly. An examination of Chapter II and Chapter III of this thesis will reveal that the airlines, without exception, are keenly aware of the importance of human relations training as well as the technical skill of the individual.

The length of time that supervisory training has been in effect in the airlines reveals that most of the airlines felt the need for such a program only since the last war. The War Manpower Commission aided greatly in setting up standards for training. The Job Instruction Training Program is only one of the many methods emerging from wartime pressure.

The methods available to the airlines are many, but as seen in Table I, page 19, most of the airlines avail themselves of only a few of these methods.

The airlines are, for the most part, against the mixing of different levels of supervision in training sessions. The scope of material to be covered would be the main reason for this conviction.

The training director in all of the airlines is treated as a staff person. Acting in this capacity, the services rendered by him would be advisory in nature. It is up to him to provide the materials and aids in training sessions. In most cases, it is the line people who actually activate the program.
The type of sessions held in the training phase of airline operations is in the majority of the cases leader-centered. This type of session is essentially directed by the trainer. In United and American Airlines the non-directive approach is followed. In this type of session the participants direct the discussion and are thus able to bring in problems of their work-a-day experience.

The writer has found that the training process is a never ending phase of supervisory training. In the airlines the need is realized and every effort is put forth to insure its success. The airlines are ever in search of new methods to improve their present programs.
APPENDIX I

SUPERVISORY DEVELOPMENT QUESTIONNAIRE

1. Do you have a formal training program?
   a. Yes
   b. No

2. How long has your company had a supervisor's training program?
   a. One year and less
   b. Two to four years
   c. Five years and less

3. Which method of training do you employ?
   a. Formal classroom work
   b. Special training courses
   c. Lectures by staff
   d. Lectures by visiting professors
   e. Conferences

4. What has been your experience as to the desired size of training sessions?
   a. 1 - 5 people
   b. 6 - 10 people
   c. 11 - 15 people
   d. 16 - 20 people
   e. 21 and over

5. Do you mix levels of employees in training, i.e., clerical, supervisors, and executives?
   a. Do not mix levels
   b. Have separate sessions for
   c. Combined sessions for

6. What is your source of instructors?
   a. Training Department
   b. Staff executives
   c. Line executives
   d. Outside arrangements

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7. Do you have a training director?
   a. ____ Yes
   b. ____ No.

8. Is this training director treated as:
   a. ____ A line person
   b. ____ A staff person

9. Are training sessions scheduled?
   a. ____ Planned and rehearsed
   b. ____ Leader-centered - where the leader directs
      the discussion
   c. ____ Inter-group centered - where each of the
      participants decide on what is to be discussed

10. Where do you hold the training sessions?
    a. ____ Conference or Training rooms
    b. ____ Other places
       ____ plant
       ____ hotel
       ____ school
March 11, 1954

Training Director
Chicago, Illinois

Dear Sir:

I am writing this letter in the hopes of obtaining some information on your supervisory training program. I am a graduate student at Loyola University working on my master's degree. The thesis I am writing concerns the comparative study of training methods used on a supervisory level at the leading airlines.

One way of obtaining this information is by personal interview. If it would be agreeable with you, I would appreciate some of your time in securing the desired information. After the study has been completed, I would be glad to advise you of the results if the participating airlines are willing to release this information.

Attached please find a preliminary questionnaire on supervisory development. When I have gathered all the preliminary questionnaires, I would like to make a personal appointment with you to discuss more pertinent segments of your program.

Sincerely yours,

Enc.
March 27, 1954

( Follow-up )

Mr. L. G. F ---
Vice-President, Operations
------ Airlines
New York, New York

Dear Mr. F --- :

I am writing this letter in the hopes of obtaining some information on your supervisory training program. I am a graduate student at Loyola University working on my master's degree. The thesis I am writing concerns the comparative study of training methods used on a supervisory level at the leading airlines.

I directed my original request for this information to your Chicago Office, but as yet, I have not had any reply. I would appreciate hearing from you or one of your staff about your training program.

Attached are some questions on training programs which would aid me greatly in completing my study by the appointed time. Due to the deadline I have addressed my return envelope to my home address.

Thanking you, I remain,

Sincerely yours,  

Home Address :
5966 W. Superior St. 
Chicago 44, Ill.
APPENDIX II

QUESTIONS ON TRAINING PROGRAM

I. What is the aim of your training program?

II. Do you have a general outline of subject areas?

Areas

A. Supervisory training
   1. Orientation training
   2. Management training conferences
   3. Special conferences

B. Skill training - development phase

C. Technical and Professional
   1. To provide information service to personnel concerning curriculum
   2. Prepare for future possibility of presenting specialized programs

D. General Education
   1. Community programs
   2. Educational assistance
   3. Library
   4. Special services

III. What training materials do you use?

A. Training Sessions for Supervisors
   1. does each branch prepare descriptions of functions performed
   2. do conference leaders prepare own outlines
   3. are there any supplementary aids used
   4. are case studies used
B. Skill, Technical and General Education

IV. Training Methods - are your training sessions designed to present actual operations and to promote discussions?

A. Supervisory Training -
B. Management Conferences -

V. Program Participation

A. General - open to all
B. Participation by:
   1. Branch heads
   2. Discussion groups
   3. Initial management training to first few levels
   4. Do branch managers decide who is to attend

VI. Program Scheduling

A. Branches
   1. Are training sessions planned in short series
   2. Do department or branch managers request time
   3. Outside Schedule or does Training Department consult with managers to schedule programs

VII. Instructors

A. General
   1. Initial supervisory training sessions conducted by
VIII. Communications

A. Does the training department endeavor to:

1. encourage management to use training programs

2. to convey problems unearthed in group discussions to management for consideration and decision

IX. Program Evaluation

Since your program has been in effect have you any techniques to measure its effectiveness and worth such as:

1. Subject reaction questionnaires
2. Instructor reaction questionnaires
3. Records of participation
4. Records of participants progress
5. Outside consultant surveys

X. Training Facilities

A. Sessions are held ________ on company time

B. Will eventual expansion of program require separate facilities than presently used?

XI. Long Range Plans

A. Do you have an ultimate objective in your training program?

B. In training do you keep these men in mind for top level positions?
BIBLIOGRAPHY

I. PRIMARY SOURCES

A. INTERVIEWS
Agar, R. H., Training Director, Northwest Airlines.
Kain, D. E., Assistant to Director of Personnel, United Airlines.
McLeod, J. R. Assistant to District Manager, Trans-Canada Airlines.

B. QUESTIONNAIRES
Agar, R. H., Training Director, Northwest Airlines.
Cardwell, C. T., Manager of Training, Trans-World Airlines.
Curtis, G., Manager, Management Development, American Airlines.
Hayes, J. J., Staff Superintendent, Management Training, United Airlines.
Leather, G. N., District Manager, Trans-Canada Airlines.

C. MISCELLANEOUS PAMPHLETS
Mainliner Management Memos, United Airlines, 1952.
Supervisor's Check List, Northwest Airlines, 1952.

D. GOVERNMENT PUBLICATION
Civil Aeronautics Authority, **Statistical Handbook of Civil Aviation**, 1953.

II. SECONDARY SOURCES

A. BOOKS


B. Articles


Nissley, H. R., "Supervisory Training: Ten Years Behind or Ten Years Ahead?", Personnel, XXVIII, May 1952, 491 - 495.


