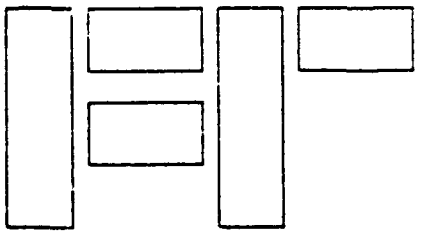
(2)

FASHION INSTITUTE OF TECHNOLOGY

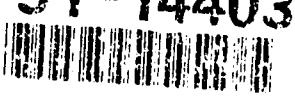
RESEARCH REPORT

DEVELOPMENT OF A COMPREHENSIVE SUPERVISOR TRAINING PROGRAM FOR ADVANCED MANUFACTURING TECHNOLOGY

Fashion Institute of Technology



DLA900-87-D-0016/0002 JUNE 1991



011 to DLA900-87-D-0016

CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified	1b. RESTRICTIVE MARKINGS None
2a. SECURITY CLASSIFICATION AUTHORITY	3. DISTRIBUTION/AVAILABILITY OF REPORT Unclassified Distribution Unlimited
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE	
4. PERFORMING ORGANIZATION REPORT NUMBER(S) F.I.T. Delivery Order 0002/Final	5. MONITORING ORGANIZATION REPORT NUMBER(S)
6a. NAME OF PERFORMING ORGANIZATION Educational Foundation for the Fashion Industries 6b. OFFICE SYMBOL (If applicable)	7a. NAME OF MONITORING ORGANIZATION DLA Manufacturing Engineering Research Office (DME/RO)
6c. ADDRESS (City, State, and ZIP Code) Seventh Avenue at 27 Street New York, NY 10001-5992	7b. ADDRESS (City, State, and ZIP Code) Cameron Station (Room 4B195) Alexandria, VA 22304-6100
8a. NAME OF FUNDING/SPONSORING ORGANIZATION Defense Logistics Agency 8b. OFFICE SYMBOL (If applicable) DME/RO	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER DLA900-87-D-0016-0002
8c. ADDRESS (City, State, and ZIP Code) Cameron Station (Room 4B195) Alexandria, VA 22304-6100	10. SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO.: 78001 S PROJECT NO.: TASK NO.: WORK UNIT ACCESSION NO.:

11. TITLE (Include Security Classification)
(U) Development of a Comprehensive Supervisor Training Program for Advanced Manufacturing Technology

12. PERSONAL AUTHOR(S)
Korchin, Howard

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
Final	FROM 88/12 TO 91/06	1991 June 30	40

16. SUPPLEMENTARY NOTATION

17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	(U) Supervisor Training, (U) Training Program, (U) Advanced Manufacturing
05	01, 05		
05	08, 09		

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

(U) Literature and existing training programs were reviewed. Apparel manufacturing industry was polled regarding needs and desires for supervisor training. Research indicated need for pre-training with emphasis on human relations and basics of advanced technologies. A ten-segment video format was selected and produced to meet these requirements. A manual for program usage was also developed.

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT	21. ABSTRACT SECURITY CLASSIFICATION
☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS	(U) Unclassified
22a. NAME OF RESPONSIBLE INDIVIDUAL Henry A. Seesselberg	22b. TELEPHONE (Include Area Code) (212) 760-7410
	22c. OFFICE SYMBOL

DD FORM 1473, 84 MAR — 83 APR edition may be used until exhausted. All other editions are obsolete.

SECURITY CLASSIFICATION OF THIS PAGE

UNCLASSIFIED

ADVANCED APPAREL MANUFACTURING TECHNOLOGY

FASHION INSTITUTE OF TECHNOLOGY

DLA900-87-D-0016-0002

DEVELOPMENT OF A COMPREHENSIVE SUPERVISOR TRAINING PROGRAM FOR ADVANCED MANUFACTURING TECHNOLOGY

FINAL TECHNICAL REPORT A008

Howard Korchin
Project Leader

JUNE 30, 1991

The project has been sponsored by the
Defense Logistics Agency
Cameron Station
Alexandria, VA 22304-6100

The Development of a Comprehensive Supervisor Training Program for Advanced Manufacturing Technology

This research report is the result of work performed under sponsorship of the Fashion Institute of Technology and the United States Department of Defense, Defense Logistics Agency (Contract DLA900-87-D-0016).

It is hereby submitted to the DLA office (DPMSO), Cameron Station, Alexandria, VA 22304-6100 in accordance with the Contract Data Requirements List, sequence A008.

Henry A. Seesselberg
Director, Advanced Apparel Manufacturing Technology Programs,
Fashion Institute of Technology

Noah Brenner
Research Coordinator,
Advanced Apparel Manufacturing Technology Programs,
Fashion Institute of Technology

Howard Korchin
Project Leader,
Advanced Apparel Manufacturing Technology Programs,
Fashion Institute of Technology

June 30, 1991

ACKNOWLEDGEMENTS

The investigators involved in this project were extremely fortunate to be part of the Advanced Apparel Manufacturing Technology Demonstration located at the Fashion Institute of Technology (F.I.T.) in New York City. The wide variety of machinery in use there, including a complete Unit Production System and operating Gerber AM-5, AccuMark, and Cutter Systems in use there afforded the project team the opportunity to become intimately acquainted with advanced and computer-assisted equipment. Leaders of other projects gave freely of their expertise and openly shared information they had gathered during site visits concerning their own projects, as did members of the faculty of the Apparel Production Management Department of F.I.T..

Special mention must be made of the contribution of Henry Seesselberg, Director of the AAMTD at F.I.T., in educating investigators in a variety of domestic and international equipment types and systems of production on which he is expert. His knowledge of equipment and both operator and supervisor requirements was invaluable in the assessment of training needs.

Josef Korngruen, Manager of the AAMTD Laboratory at F.I.T., furnished the project team with valuable background material and information on equipment and systems as well as supervisor needs. Noah Brenner, AAMTD Research Coordinator, also provided us with invaluable advice and technical assistance, as did, project leaders and other members of AAMTD projects.

DLA staff members attended our staff meetings contributing advice, support, and suggestions.

Special thanks is given to the Brooks Brothers company for allowing us to study their plant and conduct extensive interviews with their supervisors to determine needs; Guido Cozzolino and Mario Manarino were of particular help in keeping our program a practical one.

A variety of manufacturers kindly allowed project investigators to visit their facilities to inspect installations of advanced apparel manufacturing machinery and systems of production. All made members of their supervisor

and operator forces available to us for interviews and comments. Senior management officials gave freely of their time, energy and advice. These companies covered a variety of apparel product areas and included

Brooks Brothers

Coach Leatherware

Grief Manufacturing Co.

Hartmarx

Oxford Manufacturing

Refrigiwear, Inc.

Sterling Drug Company

VF Corporation

Wior Manufacturing

Contacts Made and Used in Addition to Survey Respondents

The following persons, companies, and organizations provided valuable assistance to the members of the project team through personal and telephone interviews

Michael L. Pesci, Sterling Drug Company

Steven Turnatore, Hartmarx

S. Rosen, Hartmarx

Glen Larsen, Hartmarx

Richard Gold, Hartmarx

Steve Kaufman, Juki

Vernon Pruewitt, Carhardt

Robert Mayer, Hartmarx

Dr. P. Fried, Consultant on Expert Systems

Frank Hughes, TC^2

Joe Off, TC^2

William Mitchell, Oxford Industries

Douglas Marcio, Microdynamics

Kurt Salmon Associates

D.A. Hauge, Fiedler House

Michael Shore, Michael Shore Associates

Woolrich, Inc.

Robert White, IBM

Mel Gordon, Tootsie Roll

Learning International (Formerly Xerox Learning Center)

Dr. Thomas Bailey, Conservation of Human Resources Center, Columbia University

Lois Gallagher, Coach Leatherware

Susan Griffen, Research Center, Georgia Institute of Technology

Dr. Ellen Rosen, Massachusetts Institute of Technology

TABLE OF CONTENTS

INTRODUCTION

Short Term Task DLA900-87-D-0016-0002, entitled The Development of a Comprehensive Supervisor Training Program for Advanced Manufacturing Technology, was approved in January 1989, based upon the perceived concept that new advanced apparel manufacturing technologies would require new management skills as well as an understanding of the new machines and systems of production.

The key task was to develop a comprehensive video training program for first line supervisors in an advanced apparel manufacturing technology environment. There were several considerations which were to be incorporated in the program, two of which proved to be the central points around which the program was developed. These were:

a. TEACHING AND LEARNING CONSIDERATIONS IN THE ADVANCED TECHNOLOGY ENVIRONMENT.
Advanced manufacturing technology is characterized by an increase in the use of microprocessor controlled sewing machines and other equipment often using advanced pneumatic controls and actuators. This is a change from the old world of apparel manufacturing where most machines were purely mechanical and depended upon the operators having a high degree of mechanical skill. The new apparel jobs require that operators and supervisors possess different skills than before.

b. PSYCHOLOGICAL AND SENSITIVITY REQUIREMENTS FOR THE SUPERVISOR IN THE ADVANCED MANUFACTURING TECHNOLOGY ENVIRONMENT.
Many of today's sewing machine operators are members of minority groups, some are not native speakers of English, and others may not have even a full high school education. They may also have had limited or even no exposure to advanced technology which they may perceive as forbidding and intimidating. Communicating with people with these backgrounds will require a degree of sensitivity and a command of some applied psychology on the part of the supervisor if he or she is to forge a group of new employees into a productive and effective manufacturing team in the advanced manufacturing environment.

The other considerations included goal setting for supervisors as well as training of current employees. The need to incorporate into the program all these

considerations, but principally the two cited in full above, was reinforced by our research in both the existing literature and the numerous plant site visits made, as well as by extensive discussions with prominent executives in the field, technologists, academics, and most significantly of all, first line supervisors.

Apparel Manufacturing

To talk of apparel manufacturing as if it were a single entity, divided only by the type of products made, is truly purposeless. There is little resemblance, in a manufacturing sense, between makers of "standard" merchandise and those who manufacture "fashion oriented" goods. There is even less resemblance between the large, well-financed companies located outside of major centers of population and the small, undercapitalized shops found in cities such as New York, Los Angeles, etc., be they manufacturers or contractors. Issues such as manufacturing to stock or to order, the general mix of products, price levels, and the overall scope of the operations further serve to subdivide the industry.

It follows, therefore, that to use the generic term "supervisor" also serves little purpose. A supervisor can be nothing more than a bundle supplier or, at the other extreme, a full manager, responsible for operator training and effectiveness, production planning, product mix, machine selection, and line balancing, as well as the more traditional concerns of human resource management. Often the supervisor or foreperson is a member of the owner's family who protects the owner's interests but does little else, especially in the area that is normally known as management.

Early on in the execution of this project we adopted the view that a supervisor training program would be developed to meet the needs of the "real" supervisor who would perform all the functions for which a supervisor should be responsible in a well run factory. In doing this we recognized that, in specific plants, duties and responsibilities assigned to supervisors vary, but we were steadfast in the opinion that the total job should be shown and that afterwards it would be up to the individual companies to customize the training program to suit their own needs if they so desired.

We also recognized that companies hold varying ideas of what advanced apparel manufacturing includes, depending upon what advanced technologies they have introduced (or have not introduced) into their own plants. It was, therefore, our decision to introduce the supervisor to a variety of machine types, technologies, and systems of production.

The World of Advanced Apparel Manufacturing

The world of advanced apparel manufacturing is actually composed of two separate areas, the machines and systems that are used to manufacture the products, and the people who are involved in the production, supervision and general management of apparel manufacturing firms. Each area is distinctly separate, but yet they are greatly interrelated. Too often, when thinking about new processes and situations, consideration is given to machines and systems alone, without regard to people. The result, in these cases, often is substantially less than the expected potential benefits. Optimum results are achieved when people, machines, and systems receive their requisite amount of attention when companies enter the world of advanced apparel manufacturing.

On the other hand, particularly in the case of small, fashion oriented manufacturers, too much emphasis is placed upon the highly developed skills of the workers. This, plus the financial inability of many of these firms to upgrade their machinery and their general reluctance to change their methods of production, inhibits these small, fashion-oriented manufacturers from taking advantage of the productivity increases that are available through the use of advanced apparel manufacturing technologies.

The role of the supervisor substantially changes in the world of advanced apparel manufacturing. There is more for supervisors to know about both equipment and systems and the people with whom they work and/or supervise. There will be a marked change in the character of the operators themselves due to "de-skilling" of the jobs they have traditionally performed. This, in turn, will create more unskilled or semi-skilled jobs and eliminate more of the higher paid specialty positions. As this occurs, the jobs will attract

more labor market entrants and increase the numbers of culturally diverse workers in the factories. Since it is axiomatic that supervisors by and large are promoted from the ranks of operators, we can expect that there will be increased communication difficulties which will have to be overcome.

A key issue in the training of supervisors will be the change from the old apparel manufacturer's view of the operator as an individual, working and being motivated alone and with worker interactions discouraged. Group work will become the norm in several of the advanced systems of production and multi-skilled operators will more frequently be used. With greater worker interaction we may well expect the supervisors to face many more human resource problems than in the past. As we progress further into the advanced apparel manufacturing world we may need to alter many of our human resource systems such as compensation, benefits, work shifts, and motivational techniques.

As companies move into the advanced apparel manufacturing world the management techniques of the supervisor can be expected to change from the older, autocratic techniques to participative ones which have proven themselves to be successful in increasing worker productivity.

Manufacturing Technology

Insofar as machines and systems are concerned, attitudes of senior management are changing. During the course of this project we have seen a marked increase in the understanding of the new machines and systems among managers and executives. This has largely been accomplished through education by suppliers, the establishment of the AAMTD by the Defense Logistics Agency, as well as the work of the technical committees of various associations. There appears to be greater acceptance of the new machines and systems and a lessening resistance to change on the part of managements. If the American apparel manufacturing industry is to remain competitive, there is little question that advanced manufacturing technology must be the wave of the future.

Personnel Involved in the Project

The project was initiated by Professor Jack Walfish, Chairman of the Apparel Production Management Department at the Fashion Institute of Technology (F.I.T.), now retired, in association with Professor Frederick Golden of the same department, soon to retire. Both men have had long and successful careers in the fields of apparel manufacturing and academia. In June 1989, when it became apparent that a greater balance of knowledge was needed, Professor Howard Korchin, of the Fashion Buying and Merchandising and the Apparel Production Management Departments at F.I.T. joined the project. He has a strong background in apparel manufacturing management and is a specialist in human resources, training and development, and management organization. He is presently teaching management courses in both departments and is a consultant to the industry. In February 1990, with the retirements of Professors Walfish and Golden imminent, Professor Korchin was appointed Project Leader.

The management consulting firm of Emanuel Weintraub Associates, Inc., was brought into the final writing of the program, its conversion into videotape, and the final testing of the program. In July 1990, Videoline Productions, represented by its president, Mr. Richard Wormser, was brought into the project to write scripts, provide the necessary professional actors, do the filming and editing, and produce the final videotape product.

Despite the extensive backgrounds of the project participants in the apparel manufacturing industry, a conscious decision was made that the resulting Supervisor Training Program should not be a product of the participants' combined experiences and expertise alone. We were desirous of avoiding the pitfalls of a unilaterally derived program; rather we aimed at seeking as much information as possible from existing literature sources as well as from industry executives, practicing supervisors, active forepersons, and other industry practitioners. To this end we embarked on an extensive review of the existing literature, we made numerous site visits and conducted many discussions with industry executives and workers. We also surveyed and extensively studied existing training programs.

SPECIFIC ITEM REVIEW

Literature Review

Our review of the existing literature divided itself into several parts as follows.

1. **Literature dealing with advanced apparel machinery and systems**, including information concerned with the effect these machines or systems would have on workers and supervisors.

Much of the material used came from Bobbin magazine, Apparel Industry Magazine, and other periodicals which present information of much greater timeliness than can be found in books. The area of advanced apparel manufacturing techniques is a rapidly developing one and new information is available on almost a daily basis. Many of the articles were read on a current basis and were not recorded. However, earlier articles predating the project were sought out and recorded. These include:

American Apparel Manufacturing Association, The Coming Revolution: Flexible Apparel Manufacturing. The Association

Billy Bennett, "It's a Mod, Mod, Mod Environment", Bobbin

Kurt Salmon Associates, Quick Response Implementation: Action Steps for Retailers, Manufacturers & Suppliers. Kurt Salmon Associates

Jacob N. Shephard, "Mechanization in the Sewing Room", Bobbin

2. **Existing supervisor training programs in the apparel industry.**
A variety of existing supervisor training programs, both from apparel manufacturing and other industries, were reviewed. In some cases the programs were of a proprietary nature and only excerpts were shown or discussed with us.

Among these training programs which were reviewed were the ones provided by

Bobbin Blenheim Inc.

C.B.S., Inc.

Coach Leatherware

General Electric

Georgia Institute of Technology Research Center

Hartmarx

Kurt Salmon Associates

Robert Hall Clothes, Inc.

Included in this general area was a review of curriculums of Clemson University, Southern Institute of Technology, Georgia Institute of Technology, and Fashion Institute of Technology, as regards supervisor and management training preparation.

3. **Current books on specific skills needed by managers** in the apparel industry or necessary for their fuller understanding of the apparel manufacturing process. In this area, many of the texts used in the curriculums of several colleges and universities renowned for their apparel production management departments were reviewed. In addition, the following books were used for reference.

Production and Operations Management, Manufacturing and Non-Manufacturing, James B. Dilworth, Third Edition, Random House

Production/Operations Management, Thomas E. Henrick and Franklin G. Moore, Ninth Edition, Richard D. Irwin

Production and Inventory Control, Lawrence S. Aft, Technology Publications

Project and Production Scheduling, Quentin Flemming, John Bronn, and Gary Humphrey, Probus Publishing Co.

4. **Literature dealing with cultural issues** as they might affect work in specific areas of apparel manufacturing.

In this area a good deal of our research was performed through interviews with operating executives in a variety of apparel manufacturing situations. In addition, we used the following books for reference.

Technology, Skills and Education in the Apparel Industry, Thomas Bailey, Conservation of Human Resources, Columbia University

Through the Eye of the Needle: Immigrants and their Enterprise in New York's Garment Trades, Rodger Waldinger, New York University

New Choices: A Study of Job Leavers in the Needle Trades Industry, Ellen Rosen, Harvard University, Prepared for the Needle Trades Action Project

5. **Material on supervisor training and development, including basic knowledge of supervisor needs in human resource management.** Also included was information on styles of management and employee productivity techniques.

In this area textbooks used in management courses and in industrial psychology courses in a variety of colleges and universities were reviewed. In addition, the following were used:

What Every Supervisor Should Know, Lester R. Bittel and John Newstrom, Sixth Edition, Gregg Division, McGraw Hill

Human Resource Management, Marc G. Singer, PWS-Kent

Creative Supervision, Karen Gillespie, Harcourt, Brace, Jovanovitch

The One Minute Manager, Blanchard and Johnson, Berkeley Books

A Great Place to Work, Robert Levering, Random House

The Art of Japanese Management, Applications for American Executives, Richard Tanner Pascale and Anthony G. Athos, Simon and Schuster

Teamwork on an Assembly Line: An Analysis Through Case Studies and Simulation Models of Actual Assembly Facilities, Master's Thesis, Ravi Sastry, Center for Manufacturing Productivity, Rensselaer Polytechnic Institute

In Search of Excellence, Thomas Peters and Robert Waterman, Harper and Row

Training and Development Journal, American Society for Training and Development

COMPANY SURVEY QUESTIONNAIRE

The commencement of this project called for surveys of the literature in the field of supervisor training, the existing supervisor training programs, as well as the experiences of a variety of existing companies. These proved to be very challenging requirements. There was little specific material available on current programs, and some that was in existence was considered of a proprietary nature resulting in a reluctance on the part of some people to share their information.

Our surveys were further complicated by the fact that few companies had much experience with advanced apparel manufacturing technologies and, therefore, could not fully determine their training needs. Indeed, a number of companies questioned the investigators on what we thought they should be doing. It became clear that it was necessary for us to quickly reach as large a group of companies who were interested in supervisor training as possible. Because we were aware of the restrictions placed upon us by the Paperwork Reduction Act and its prohibition on the use of questionnaires, we approached the American Apparel Manufacturers Association (AAMA) to determine their interest in such an undertaking. The AAMA, and in particular its technical committee, feeling that supervisor training was vital to a successful apparel industry, agreed to help us in our search for as much information as possible. Consequently, we constructed a questionnaire which was distributed by the AAMA to a selected group of member companies.

Our preliminary research had shown that, essentially, only larger organizations had any interest in the training of supervisors, with smaller organizations primarily hiring experienced people who had been trained by others. Smaller organizations appeared to be interested only in the current technical skills of their supervisors and the applicability of those supervisors and their skills to their own products. To test these findings our questionnaires were sent to approximately 350 large apparel manufacturing companies selected from the mailing list of the AAMA as well as to approximately 350 smaller manufacturers on the mailing list of the Advanced Apparel Manufacturing Technology Demonstration (AAMTD) facility at F.I.T.. These smaller companies were primarily located in the tri-state area of New York, New Jersey, and Pennsylvania.

The total response, numbering 38 replies, came from large manufacturing organizations. However, because of the size of the responding companies, these covered some 55,000 employees and 2,500 supervisors. The responses to the questionnaire, were, therefore, considered to be representative of the largest apparel manufacturers, and illustrated their needs and concepts of dealing with Supervisor Training. Smaller organizations, apparently, either had little interest in the subject or were reluctant to discuss their needs. The conclusions we drew from the responses we received confirmed our preliminary research theory of where interest in supervisor training was centered: in the largest national companies, in companies who could afford them.

Survey Findings

Analysis of the responses to the questionnaire produced the following generalizations.

1. We found that little formalized Supervisor Training is going on in the apparel manufacturing industry with the exception of that which is conducted by a small number of companies.

2. Supervisor training is very apt to be a "one-time" experience offered by the company or, more likely, a consultant. Supervisors and supervisors-in-training are sent to industry meetings or local seminars which deal, in the main, with specific problems and/or new equipment.

3. In large companies attempts are made to promote from within and the survey showed a significant need for training in advance of need. This reinforced our intuitive feelings that we should produce as complete a program as possible and that we should encapsulate it in a simple, easy to use, inexpensive delivery technique.

4. In response to the question "What should a supervisor know?", we received a surprising number of answers which referred to general supervisor qualifications that one might expect from any industry. These were the abilities to deal with people, to communicate, to solve problems, and to have good human resource management skills.

5. In response to a highly significant question in which companies were asked to indicate by individual subject matter what was in their training program or what they would like to have included in a training program if they had one, we recognized a heavy emphasis on human relations skills. On specific re-questioning of respondents we found that many had assumed that their supervisors had the necessary technical qualifications and they wanted the program to cover those areas in which they felt their supervisors most deficient - human resource knowledge.

6. Our respondents at first had little interest in a supervisor training program that taught only technical subjects. In the follow-up during the early stages of the project it was found that many companies had little experience with advanced apparel manufacturing techniques. As the project progressed, however, and industry-wide discussions of technical change increased, the opinions of our respondents altered and our final program reflects this change towards a growing interest in technology and includes much technical information.

7. The following chart indicates the survey responses on course content of companies who reported that they either had the particular subject matter in their present program, or if they did not have a program, they would want this content included. Please note that the responses from companies using one-time training experiences as well as those having on-going training programs have been combined.

CHART I

SURVEY RESPONSES ON COURSE CONTENT

Chart 1

The Development of a Comprehensive Supervisor Training Program for Advanced Manufacturing Technology

SURVEY RESPONSES ON COURSE CONTENT

SUBJECT MATTER	HAVE IN PROGRAM	WANT IN PROGRAM	TOTAL RESPONSES
Company policies toward employees, quality, safety	15	19	34
Personnel management techniques and legalities	12	22	34
Motivational techniques	15	19	34
Quality standards and methods	17	16	33
Training	13	18	31
Planning and scheduling	13	18	31
Technical requirements for operations supervised	13	17	30
Employee productivity techniques	10	19	29
Company orientation, history, strategies, products	10	17	27
Selection of employees	7	20	27
Department orientation of employees	10	17	27
Employee participation techniques	9	17	26
Understanding industrial engineering techniques:			
Employee incentive pay techniques	11	18	29
Methods and motion studies	10	19	29

Work flow	9	18	27
Work measurement	8	18	26
Operations analysis	5	18	23
Ergonomics	3	18	21
Grievance handling	14	11	25
Employee team leadership	6	18	24
Addressing the cultural issue	4	19	23
Cost control and analysis	6	15	19
Quality circle leadership	2	17	19
Basic sewing machine mechanics	6	12	18
Union/management relations	8	8	16
Computer usage	5	11	16
Costs and budgeting	7	9	16
Advanced equipment technology	1	4	5
Electronics	0	4	4
Pneumatics	0	3	3
Teamwork techniques	0	0	0

Analysis of Survey Findings

It is recognized that in interpreting the finding's of our survey one may find support for almost any subject that one would wish to include in the Supervisor Training Program. There is, nevertheless, a clear indication that respondents feel that the job of the first line supervisor is changing and will continue to change even more as greater use is made of advanced apparel manufacturing techniques. This changing job scene requires even greater involvement of supervisors with operators and greatly improved communications between supervisors and operators and between supervisors of different sections and departments.

Interviews that were conducted with industry executives, equipment manufacturers, and academics indicate that the introduction of new and varied types of machinery and systems of production is changing the manufacturing environment. Therefore, the role of the first line supervisor is also changing. Productivity enhancing technologies are requiring the supervisors to deal with their employees on a different level than before. No longer will operators be taught and motivated as individuals who have their own specific experience skills and whose primary need is to be supplied with work. Quality assurance will no longer be a matter of supervisors "inspecting quality into a garment". The new machinery and technologies will provide for building quality into the process of manufacturing, and quality production will become everyone's job.

We believe that we can also predict continuing change in the make up of the workforce. Greater use will be made of interdependent groups of multi-skilled workers using a variety of advanced types of machinery. As more electronically controlled machinery is introduced more semi-skilled operators will, in fact, become attendants of programmed equipment. As we look forward to more and more entry level people being trained to operate this equipment we can expect that people of lower educational skills and/or new immigrants will be joining this workforce. This will mean that supervisors will need greater communication skills, as well as traditional management skills, to more properly supervise these workers.

PROGRAM CONTENT

Program Rationale

From all our research; site visits; discussions with industry executives, supervisors and workers; inputs from our industry consultants (Emanuel Weintraub Associates); etc., we made the following observations concerning program content.

1. Most responses given to our question, "What shall we include in our training program?", were highly dependent on how each individual company used their supervisors: whether they were actually using supervisors in a full supervisory sense or if they were using them as suppliers, people pushers, or simply watchers.

2. Technical subjects were typically not included by respondents to the same question, "What shall we include in our training program?". This did not appear to mean that the responding company did not think them important, but rather it indicated that management simply had no experience with such items as advanced types of machinery or advanced apparel manufacturing systems.

3. Companies using advanced manufacturing technologies foresaw the need for supervisors who were at least familiar with these new technologies.

4. Supervisors, particularly those promoted from operator positions, needed to have an understanding of costs and their effect on profits.

5. Supervisors needed a better understanding of why and how some of the production methods used in the manufacturing plants actually worked. We interpreted this as a need for a greater understanding of basic industrial engineering principles.

6. All sources indicated an important need for supervisors to improve their ability to deal with workers, specifically in the areas of communication, motivation, discipline, and all other techniques we would normally lump together as human resource management.

7. It became apparent that senior management persons often were not communicating vital information to the supervisors, such as the need for them to set achievable productivity and quality standards as well as the need to set achievable production schedules.

8. Managements were often not aware of what their own role in the training of supervisors should be. In many cases this training was left to outsiders who performed one-time training programs which were not reinforced by management. (Items 7 and 8 formed the basis for our decision to provide an introductory segment directed towards management.)

These considerations brought us to the decision that the subject matter requiring coverage was simply too vast to be effectively handled in a single presentation, particularly if we chose video as the presentation format. We recognized the need to cover each training subject separately so that company managements could choose the ones they felt were most appropriate for their supervisors. Finally, we felt that the basic training and its reinforcement would be simpler if we covered each subject as an individual item.

Subjects to be Covered in Program

It was decided that the training program would include discussions on the contemporary role of the supervisor in:

* New Worker Orientation
* Human Relations Aspects of Supervision
* Praise and Criticism of Worker Performance
* Introduction of New Equipment and/or Changes in the System of Production
* Employee Grievances
* Quality
* Orientation to Industrial Engineering Concepts
* Getting the Work Out
* How to Keep the Unit Balanced

It was decided that each of the topics was to be covered in a separate video cassette. Also, there would be an introductory videotape for management review alone, making a total of ten video cassettes in the whole program. It is our recommendation that all company managements use the appropriate videotape as part of a supervisor training session which will be devoted to the individual subject being covered. The manual for use, which is included with the set of ten videotape cassettes, strongly urges company management to use each videotape as the centerpiece of a meeting with supervisors where specific questions can be discussed and answered by management. In this manner the management of each firm can, in effect, customize the program to be consistent with their own policies.

The importance of the recommended presentation and use technique must be underscored. The inherent weaknesses of every "generic" supervisor training program lie in their inappropriateness in terms of individual firms' rules, regulations, production policies, etc. and in their very generic, non-specific nature. This program has been constructed to overcome these weaknesses by specifically urging supervisors to determine management's policy or method of handling a specific situation. Also, when managements are aware of all of the information in each subject program they can then fully customize the program for their own individual uses.

PROGRAM WRITING

The actual writing of the program presented a challenge to the project team inasmuch as the vehicle for the presentation was to be a series of ten video cassettes, each covering a different subject. These videos, in order to provide the proper visual effects, should have been written by a professional script writer but it was impossible to find one with a background in either the apparel manufacturing industry or in the techniques of training supervisors. To overcome this problem we used the following method.

1. For each of the ten segments we created an outline and an explanation of all the specific material to be covered. These write-ups included specific instructions as well as examples and were furnished to the script writer.

2. For each segment we created a "scenario" or background information document for the script writer which included an easy to understand summary of the key issues to be covered. We also included a series of suggested mini-scenarios that we considered would be applicable for each of the key issues.

3. Using each set of the above two documents the script writer produced rough drafts of the scripts for each segment. The project team worked with the script writer through several revisions until each script was brought to the point of acceptance.

4. With the final scripts completed, the film producer, Richard Wormser of Videoline Productions, Inc. (who was also the script writer) filmed each segment using professional actors.

5. Editing of the films was accomplished by Richard Wormser and his associates.

As the program writing process evolved it became apparent that much specific and detailed material could not find its way into the finished video segments. All training videos viewed during our research showed that the ideal length of each segment should be from 12 to 15 minutes including both narration and demonstrative vignettes. Therefore, a balance of material had to be struck in order to both be informative within that time span and still retain the attention and interest of the trainee/viewer.

The absence of the specific materials which we had to omit because of time constraints does not weaken the video program in any manner, but collectively they represent an opportunity to provide a detailed supplement to supervisor training which could be used by company managements, training instructors and supervisor trainees. This supplement would provide additional and important background material to enable managements and training instructors to run more effective training meetings and for active supervisors and supervisors-in-training to study. Unfortunately, such a supplement which would include abstracts of the texts of each video and a complete bibliography for reference was not originally planned and therefore was not budgeted in our original proposal. It is our intention to request the opportunity to produce this material.

PROGRAM TESTING

We planned originally to first complete the production of the video program and then have the finished videos field tested. This, however, meant that if any changes were required additional shooting, editing, etc., would also be required. Therefore, we tested the program instead as it evolved using Brooks Brothers, a well known men's tailored clothing manufacturer as the testing body. First, Brooks Brothers' management approved of the overall program content. Then, as background materials were written they were asked to review the detail of what was being included. Finally, they were asked to approve the actual scripts.

Following the completion of the production of the videos it remained only to have them previewed and tested by supervisors and have each test participant complete a questionnaire. On June 11, June 12, and June 13, 1991, meetings of two and a half hours duration each, were held at the Brooks Brothers manufacturing facility in Long Island City, New York. The meetings were conducted by Prof. Korchin, the project leader.

Before each video was presented it was preceded by a short introduction of the subject matter. It was subsequently followed by a discussion of the film content. The supervisors, acting as supervisors-in-training, were encouraged to ask questions so that their level of understanding could be determined. At the conclusion of the three day "training program" each participant was asked to complete a questionnaire (see Appendix A). Thereupon, individual interviews were held with a number of supervisors and representatives of senior management to informally obtain personal opinions of the program.

All reviewers of the program, supervisors and senior management representatives alike, were extremely enthusiastic in their praise of the videos. All agreed that because of the large amount of specific information in each of the videos they would best be shown one at a time, and that each video should be immediately followed by an in-depth discussion led by an instructor or management representative. The Vice President of Manufacturing and the Chief Engineer felt that the video program should be taken to other Brooks

Brothers plants and should be shown to supervisors and members of management at each facility. Arrangements were therefore made to have copies of the entire program made available to Brooks Brothers for this purpose, after acceptance of the program by the Defense Logistics Agency.

An interesting sidelight to this discussion was that all supervisors agreed that the program should be presented as suggested above and then reviewed again after the supervisors had had an opportunity to put the information into use. This further strengthens our concept of reinforcement usage.

The Brooks Brothers manufacturing facility is staffed by a multicultural, multilingual workforce and the supervisory staff is basically representative of the workforce make up. In individual conversations after the meetings, supervisors gave no indications that they had had any language difficulties in understanding the material. Most cited the dramatizations and visual presentations of the technical material as being self-explanatory.

A followup with management as to the effectiveness of the video training program on their supervisor staff, is planned at year's end.

SUMMARY AND CONCLUSIONS

It is clear that all respondents to our questionnaire, as well as all the companies we otherwise contacted, are desirous of obtaining a new, timely Supervisor Training Program. Their need for this is immediate, for present supervisors, but also on-going for use in training future supervisors. There is considerable evidence that larger apparel manufacturers recognize the need for training in advance of the need for supervisors more so than do the smaller manufacturers.

The content of the Supervisor Training Program includes both information dealing with the various technical aspects of the supervisor's responsibilities as well as with the more common human resource aspects of the position. The need for this information was expressed in almost all of our contacts with industry executives. There is a recognition on the part of manufacturing executives that interpersonal relationships among operators and the supervisor's effect on them play an important role in both the quantity and quality of production. As further de-skilling of operators' jobs progresses and cultural diversity of the workforce increases, the character of the workforce will continue to change. The importance of the well-trained supervisor serving as a role model is becoming more evident daily.

The trend towards promotion of operators to supervisory positions has made the need for training supervisors more acute. Often these supervisors (who were recently operators) come to their new positions only with sewing skills. Usually, also, they were "liked" by their fellow operators and have a history of being cooperative with management. Their knowledge of supervisory skills is only their remembrance of what their own supervisors did and the instructions of their present managers. They need to be trained to be good supervisors.

The new technologies, particularly those involving group work, appear to require a great deal more human resource skills on the part of the supervisor. Indeed we believe that many new industrial relations changes will be needed to achieve the higher productivity that will be required from operators working in group situations. Aside from changes in the systems of compensation, supervisors will need to be knowledgeable of and practiced in <u>participative</u> management skills. Further, the supervisor will have to be able to

establish the atmosphere in the workplace where participative management may flourish. This is not only vital to increasing productivity but will form the basis for use of a total quality assurance program in the company.

We believe that the ten videos that make up the Supervisor Training Program for Advanced Manufacturing Technology will provide the training that will make new supervisors aware of how they should be supervising in the modern world. Further, it will make managements aware of what supervisors should be responsible for in their specific plants. It is hoped that managements will involve themselves in the training process and that the material contained in the video programs will aid them in becoming proper role models for their supervisors.

To complete the work of making the Supervisor Training Program for Advanced Manufacturing Technology as all-inclusive as possible, we strongly recommend an addition to this project: the writing of a SUPPLEMENT AND LEADERS' MANUAL which will include the material that was dropped out due to the necessarily short lengths of the video segments, all other necessary explanatory information, and important background references so as to enable company personnel at all levels of management to administer this program so that it will have the greatest positive effect.

APPENDIX A

VIEWER'S OPINION QUESTIONNAIRE

APPENDIX A
VIEWER'S OPINION QUESTIONNAIRE

NAME _____ DATE _____

POSITION _____

_____

SEGMENT VIEWED _____

---

1. Do you feel that the information shown in this video segment will help you in your daily work?
   Yes _____ No _____ Don't Know _____

2. Do you feel that you learned anything new in this video segment?
   Yes _____ No _____ Don't Know _____

3. Were the examples shown real life situations?
   Yes _____ No _____ Don't Know _____

4. If you were just being promoted to supervisor, do you think this video would help you to do a better job?
   Yes _____ No _____ Don't Know _____

5. Do you think that it would help you to see this video again in 3 months, after you have had a chance to think about it and try some of the ideas talked about?
   Yes _____ No _____ Don't Know _____

6. Do you have any comments?

_____

_____

_____

_____

The Advanced Apparel Manufacturing Technology Program at the Fashion Institute of Technology (SUNY), would like to thank you for your valuable help in answering this questionnaire.

APPENDIX B

INTRODUCTION TO PROGRAM AND MANUAL FOR USE

INTRODUCTION TO PROGRAM AND MANUAL FOR USE

Because the domestic apparel manufacturing industry is shrinking and changing, the industry is turning to advanced apparel manufacturing technologies to remain competitive. Because of this, and because of the changing nature of the work force, the supervisor's job has become more complex than ever before. Today's supervisor needs to know the new technologies and must develop new management skills.

The supervisor is to the company what the sergeant is to the army - the first line of management in the field. The supervisor stands between workers and management and depends upon the trust and confidence of both. Although the supervisor's job may vary from company to company, the bottom line remains the same - the supervisor must get good quality work out on time and within budget.

WHY ANOTHER TRAINING PROGRAM?

The concept of Supervisor Training is not a new one. In many industries there are fine, individually tailored programs created by individual companies to meet their singular needs. Smaller firms, without the financial means or necessity for continuous training, have relied on the hiring of trained and experienced supervisors from outside their own organizations to meet their needs. Schools, colleges, and universities have also produced programs for teaching and training purposes and have invited private-sector companies to make use of their facilities by having their employees attend these programs.

Private consultants abound in the field of training and development. Some offer off-the-shelf programs that deal with the generalities of supervision, others offer "customized" versions directed at specific companies. In most cases consultants give a one-time session, or a series of sessions, but leave the follow-up and reinforcement of the program to management. Consultants have produced commercially available videos, slide films, televised lectures, etc., all dealing with supervision in the broadest sense, and all (depending on price) made commercially attractive.

Despite the critical nature of the supervisors' job however, relatively few companies offer any formalized training. Generally speaking, there is little ongoing systematic training for supervisors with the result that many supervisors are unqualified for the job, production is not at its optimum level, employee morale is low, and turnover is high.

Most training programs have an inherent fault built into them. They are constructed on the basis of what some individual or small group of management people believes to be the crucial issues to be covered. What are important to one company are not always important to another. The value of a training program is judged by pragmatic managements to be worthless or worthwhile on the basis of how much it improves the quality of supervision at that moment in time, not over the longer range period.

Another problem is that the industry has traditionally encouraged worker specialization. The operators may know their specialties well, but have little knowledge of other jobs or the relationship between departments and little awareness of the larger picture of the plant's operations. All too often, supervisors may have the same weaknesses.

This series of video programs is designed to solve these and other problems by properly training new or potential supervisors. It can be used as a home study course or in conjunction with other training programs. The series is designed to help prepare the supervisor to meet the challenges of today's highly competitive market.

The programs were developed in response to the sewing industry's needs to take advantage of new and emerging advanced equipment and technologies. They are the result of research conducted throughout the member companies of the industry and reflect what management felt to be information most needed by supervisors. The areas covered in these programs include:

Worker Orientation
Human Relations Aspects of Supervision.
Praise and Criticism of Performance
Employee Grievances
Introduction of New Equipment
Quality

Orientation to Industrial Engineering Concepts
Balancing
Getting the Work Out Through Lot Control

Five programs focus on the human relations side of the supervisor's job:

Worker orientation - how to get new employees off on the right foot;

The human relations aspects of supervision - how to be a model supervisor;

How to constructively praise and criticize an employee;

How to effectively deal with complaints and grievances; and,

How to introduce the worker to new technology.

Four other programs deal with the production side of supervision:

Producing quality work;

Understanding how engineering concepts apply to the manufacturing scene;

Balancing the production schedule; and,

Getting the work out through lot control.

While each of these programs stands on its own and can be viewed separately, the last two programs - balancing and lot control - are linked to each other.

There is a separate, introductory program designed specifically for review by members of management.

HOW TO USE THIS PROGRAM.

All the combined experience of the project team and other experts in the supervisor training field shows that the only successful supervisor training program is one which is

heavily supported by management! This support should, ideally, take the form of active management involvement in the process of training as well as a commitment that management supports and agrees with the subject matter being taught.

The importance of management involvement in the proper training of supervisors cannot be overemphasized. An entire program, as an introduction to the series, is devoted exclusively to this matter.

We have very specifically advised the supervisor to become familiar with all relevant company policies and to be sure to consult with management in order to be certain of compliance with established policy in any particular incident. While the supervisor training program has been designed so that it can be viewed in its entirety or as individual videos for instruction regarding specific subjects, it is recommended that the program first be viewed in its entirety after which its individual segments can be reviewed for reinforcement training.

It is strongly recommended that management hold meetings or discussions with supervisors or trainees who have viewed the videos to not only demonstrate their commitment and involvement, but also to discuss particular applications of the programs in their own firm. By holding these meetings or discussions, the company is, in effect, customizing the program for itself as well as demonstrating a strong participative management technique.

PROGRAM SUMMARIES

The following are brief summaries of the basic instructional points that each of the programs contain.

THE ORIENTATION OF NEW EMPLOYEES.

Since the cost to train and recruit a new employee is high, management has a big financial stake in retaining its recruits. Part of the supervisor's job is to encourage new workers to stay with the company and minimize turnover. Good first impressions are often the key to success and can make the difference between staying and leaving.

Communication is the heart of the supervisor-employee relationship. By using it properly the supervisor can build a basis for winning the trust and confidence of the new worker.

When a new employee has a sense of the overall picture of the environment in which he or she works, how different departments interact, the key personnel the employee should know about, and his or her fellow workers, he/she develops a sense of belonging and should be expected to remain with the company longer.

The supervisor is instructed in the best methods to introduce perhaps the most important concept in the new employee's job, quality, by clearly and emphatically defining the quality standards that the company expects.

This segment recognizes that each company has it own way of doing things. However, the important thing is to win the employee's commitment to the plant and the first step on this road begins the moment the new employee's foot crosses the threshold.

HUMAN RELATIONS ASPECTS OF SUPERVISION.

In this program segment we examine the model supervisor's behavior. We focus on a number of different situations in which the supervisor is called upon to solve problems, some of which he or she may not have answers to. When that happens, what should the supervisor do? Answers to that question are offered in this segment.

The importance of the supervisor listening to what's being said when an employee presents a problem is stressed: not just the words, but the intention behind the words, the operator's real concerns.

Strong note is made that the supervisor has to be in touch with what's going on with the employees and must recognize that different workers have different personalities, and that their personalities will affect the way they approach their work.

In today's changing environment, more and more plants are using Flexible Manufacturing Systems - the team approach to high quality production and Quick Response. In this setting the supervisor needs to have different management skills

relative to team participation in the decision-making process and encouraging cooperation between its members. Perhaps the most important management skill the modern supervisor needs is flexibility. This program shows how the supervisor can deal with these problems and many others and offers concrete solutions.

PRAISE AND CRITICISM.

In this segment we deal with, appropriately enough, praise and criticism. Many supervisors would say that praising an employee is easy enough. But that is not necessarily the case. When a supervisor praises someone, he or she has to be sensitive to the person being praised. Timing is extremely important as is whether or not to praise privately or publicly.

This program also demonstrates the accepted techniques of supervisory criticism so as to effect a positive change in behavior and not have a confrontation. The use of politeness, discretion, timing, listening to the employee's explanation, offering solutions to problems and setting a climate for trust-and most important, not making criticism personal are discussed. At the same time, warnings about the pitfalls of criticism such as losing one's temper or humiliating an employee in public are expressed. The program also deals with how to praise and criticize performance under team work conditions without disrupting the team. Praise and criticism are stressed as being part of the supervisor's most effective management skills when used wisely and with sensitivity.

EMPLOYEE COMPLAINTS AND GRIEVANCES.

It is normal and natural for people to complain. In this segment we emphasize that it is the supervisor's job to deal with complaints promptly and fairly and prevent them from blowing up into major grievances. In that way the supervisor maintains a smooth running operation, fosters good company morale, and maintains productivity.

The program talks about how the supervisor must take every complaint seriously and try to get a sense of what the employee is really unhappy about. It is the supervisor's job to resolve complaints, and the key to dealing with them is not to take them personally but to look at them objectively, deal with them directly, and settle them.

Complaints have to be nipped in the bud for the sake of the morale of the work force and the productivity of the plant.

INTRODUCTION OF NEW EQUIPMENT IN THE WORK PLACE.

Nothing seems more threatening to people in today's factories than technological change. One of the most difficult challenges that supervisors face is convincing their operators to accept technological change in the work place. In this program we examine ways in which supervisors can prepare workers for change. First, an overview of some of the more recent technological innovations in apparel manufacturing is presented, showing how computer-controlled equipment has revolutionized the sewing industry and altered the traditional ways of doing things. Then, we shift to the supervisor's role in introducing this equipment into the work area and getting employees to accept it. Many workers will become anxious about their job security, wages, the obsolescence of their skills, and the need to be retrained. These are legitimate concerns and supervisors have to be prepared to answer them.

The focus of this program is to smooth the way for the introduction of new technology by dealing with these tough issues directly, giving straightforward answers, and putting things in proper perspective for the employees.

DEALING WITH QUALITY ON THE FACTORY FLOOR.

Repairs. The supervisor's nightmare and most critical responsibility, insuring the quality of the product. Quality is the basis of the company's reputation. It cannot be inspected into a garment. The garment must be made right in the first place.

KEEPING YOUR UNIT BALANCED.

These are many questions that supervisors have to answer as they begin their weekly battle to get the work out - overcoming a sea of obstacles that lie in wait for them. The well-trained supervisor usually works from a weekly plan that allows him or her to match resources with the work schedules. In this program, Keeping Your Unit Balanced, we show how the supervisor plans to balance the work load. We show how to actually balance the operations, determining how many available hours there are and balancing equipment and the number of operators to meet the demands of the schedule. The program includes an introduction to making up a balancing schedule that applies to a real-life situation.

Once the plan is drawn up, the supervisor now has to get into the production units and see that it works. Which brings us to the last program in this series - Getting the Work Out Through Lot Control.

GETTING THE WORK OUT THROUGH LOT CONTROL.

Getting the work out. That's what it all comes down to. How to move the cut goods through the network of machines and operators to come up with a finished product. How to deal with emergencies and repairs, rush priorities and unexpected problems - and yet meet the schedules so the company can fulfill its commitments. It's a big job for any supervisor. In this program we deal with these problems. We see how lot control helps the supervisor get the bundles through the manufacturing process in the most efficient manner possible, systematically meeting daily production goals and sticking to production schedules.

The program also discusses certain tools that can help the supervisor get the work out while keeping an eye out for stragglers that can slow up the line and cause delays. Some tools can also help move rush priority work through the system with a minimum of disruption. Some of the tools we discuss are short interval balancing work sheets that schedule the hours each operator will spend on a style, and matrix verification plans that enable the supervisor to see at a glance what bundles are being worked on and which have been completed.

The bottom line is that a supervisor needs a good balancing plan and good lot control to get the work out, to deal with rush priorities with a minimum of disturbance, and to meet the production schedules while producing good quality work.

SUMMARY

These programs are designed to teach supervisors the fundamentals of the specialized skill areas that are under their jurisdiction. Although each plant has its own policies, the programs present a general picture of the basic elements of the supervisor's job which can be applied to almost any situation. The program's purpose is to introduce and reinforce standards of excellence for the supervisors - the men and women responsible for producing quality products on the factory floor.

PROGRAM DEVELOPMENT

This supervisor training program addresses both the present and future needs of supervisors in all phases of the apparel manufacturing industry as defined by managements of many companies and by academics, trade association executives, and government officials. The program represents the culmination of a two-year research and development effort of the Advanced Apparel Manufacturing Technology Demonstration (AAMTD) Center, an integral part of the Fashion Institute of Technology (F.I.T.) in New York City, NY.

The AAMTD, funded by the Defense Logistics Agency (DLA) of the United States Department of Defense, is dedicated to maintaining a healthy and viable apparel industry in this country, demonstrating state-of-the-art machinery and manufacturing systems, encouraging research and development, and assisting the U.S. Government in improving the design and construction of its military apparel needs. Personnel for AAMTD projects are drawn from the full-time and adjunct faculties of F.I.T.. Every participant has both an academic background and practical experience in his or her field of specialization.

Personnel for this project, chosen to provide a mix of technical and human resource backgrounds, were F.I.T. professors Howard P. Korchin, project leader, Frederick Golden, and Jack Walfish, all on the faculty of the Apparel

Production Management department. Additional input was provided by Emanuel Weintraub Associates, apparel manufacturing consultants, and Videoline Productions, Inc., experts in video production.

RESEARCH

Preceding the writing of the training program a period of extensive research was undertaken. All available literature, existing training programs, and other material was reviewed to avoid needless duplication of material. Numerous site visits were made to cooperating companies whose managements displayed new and advanced equipment and manufacturing systems and who discussed with us their training needs for supervisors. Through the efforts of the American Apparel Manufacturers Association (AAMA), a survey questionnaire was constructed and distributed to over 500 manufacturers representing all aspects of the apparel manufacturing industry.

Responses were received from companies whose combined work forces totaled well over 50,000 employees and included approximately 2,500 supervisors. The responses indicate a tremendous need for and interest in the training of supervisors for the industry. Except in the very largest companies, supervisor training is limited to on-the-job-training in the specific technical aspects of the individual supervisor's responsibilities. A number of companies use one-time training experiences provided by consultants who normally give short programs. Heavier use is made of colleges and universities that offer special courses to meet defined problems. Seldom did we encounter a continuous training and reinforcement effort.

The survey questionnaire offered a wide menu of subjects and asked which were covered in each company's existing training program and which other ones they would like to have covered. We learned that even in training programs of the very large apparel manufacturers there were many important subjects that were not covered.

Almost none of the existing programs address the subjects of advanced machinery or the new emerging manufacturing systems. Neither is instruction in the skills necessary to supervise people who are using these systems provided in any of the programs.

Almost universally, human resource training for supervisors was heavily requested by the respondents to the questionnaire. The only conclusion we have been able to draw from this is that the traditional role of the supervisor has been changing and the importance of dealing consistently with the work force is being recognized. This, therefore, resulted in our undertaking an in-depth study of the human resource requirements of the new machinery and manufacturing technologies as well as a study of the needs of the new culturally-mixed work forces.

We attributed the apparent lack of interest in the technical aspects of the supervisor's job to the fact that most companies have as yet had little experience with the new technologies and therefore are uncertain of their requirements or are unsure of the supervisor's new role in working with these technologies.

It appears, in most cases, that supervisors are hired as experienced people from other companies or are promoted from the ranks of operators. Because of this, it would seem, a surprisingly large number of companies suggested that people should be trained to be supervisors in advance of the need for them. In this way the companies would be prepared with promotable people when new supervisor positions became available and, therefore would not have to go outside to hire new supervisors.

THE CONTINUING ROLE OF AAMTD AT THE FASHION INSTITUTE OF TECHNOLOGY

It is the aim of the AAMTD at F.I.T. to further the education, training, and development of supervisors in apparel manufacturing on a continuing basis. Therefore, it is our intention to provide additional information and revisions of this program as they become needed. Questions, suggestions, or comments on this program will be welcomed and should be addressed to:

Professor Howard P. Korchin, Room CC15A
Advanced Apparel Manufacturing Technology Demonstration
FASHION INSTITUTE OF TECHNOLOGY
Seventh Avenue at 27th Street
New York City, New York 10001-5992

Telephone (212) 760-7410
Fax # 212-594-9206