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STF-IG
September 1995

SHAPING THE FUTURE

***SHAPING THE
FUTURE***

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NOTICE:

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FEDERAL EMERGENCY MANAGEMENT AGENCY

UNITED STATES FIRE ADMINISTRATION

NATIONAL FIRE ACADEMY

FOREWORD

The Federal Emergency Management Agency (FEMA) was established in 1979. FEMA's mission is to focus federal effort on preparedness for, mitigation of, response to, and recovery from emergencies encompassing the full range of natural and manmade disasters.

FEMA's National Emergency Training Center (NETC) in Emmitsburg, Maryland, includes the United States Fire Administration (USFA), its National Fire Academy (NFA), and the Emergency Management Institute (EMI).

To achieve the Academy's legislated mandate (under Public Law 93-498, October 29, 1974), "to advance the professional development of fire service personnel and of other persons engaged in fire prevention and control activities," the National Fire Academy has developed an effective program linkage with established fire training systems which exist at the state and local levels. It is the responsibility of this division to support and strengthen these delivery systems. Academy field courses have been sponsored by the respective state fire training systems in every state.

In further support of linkage with established professional fire service organizations, the NFA has agreed to develop field training in cooperation with the Training Resource Analysis and Data Exchange Program (TRADE).

One such cooperative project recommended to the NFA by TRADE is to develop training in the subject area of mid-level management for the fire service. TRADE has requested that the Academy develop two 2-day courses for field delivery.

The purpose of this training is to provide students with an understanding of concepts, functions, and responsibilities at the intermediate management level, as well as issues affecting mid-level management personnel in the fire service.

This course, *Shaping the Future*, will focus on the skills and techniques that a mid-level manager needs to provide leadership and direction for his or her fire department. The first module will have students focus on identifying opportunities (or problems). This will include discussions on the use of environmental scanning as a tool, the concept of paradigm shifts, and methods to reframe problems accurately. Mobilizing people to solve problems as groups, rather than continually using only the traditional fire service groups is the focus of the second module. It will include topics such as brainwriting and wholebrain thinking, problem-solving strategies, a discussion of benchmarking, and the need to involve resources outside the fire department and government. The third module will focus on the need to quantify, justify, and communicate decisions so they will be implemented effectively. Managing change will be discussed in the final module of the course. Why people resist change, overcoming that resistance, and monitoring and evaluating the change before, during, and after its implementation are topics that will be covered in this module.

The second course, *Managing in a Changing Environment*, will focus on the four major areas (economic, social, political, and technological) that have an impact on the future of the fire service.

The staff of the National Fire Academy is proud to join with state and local fire agencies in providing educational opportunities to the members of the nation's fire services.

ACKNOWLEDGMENTS

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MODULE 1: REDEFINING THE PRESENT	IG 1-1
MODULE 2: FINDING SOLUTIONS IN THE QUALITY ENVIRONMENT	IG 2-1
MODULE 3: JUSTIFYING DECISIONS	IG 3-1
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INSTRUCTIONAL AIDS

OHTS

MODULE 0:	OHTs 0.1 to 0.7	7
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Total OHTs 166

SUPPLIES NEEDED

Chart paper and easel/chalkboard
Marker pens/chalk
Overhead projector

HANDOUT

Module 5: Handout 5-1: Final Examination

VIDEOTAPES

This course package includes four 1/2-inch VHS videotapes, one each for Modules 1, 2, 3, and 4. Basically, the videos are the lecture portions of each module. Activity cues are identified on the tapes. When the activity cue appears, turn off the VCR and conduct the activity. You will need to process the conclusion of the activity before returning to the tape, because the activities are not discussed on the tapes.

The videotapes were produced during a delivery of the course over a fiber-optic distance learning system. The tape lectures may not follow the instructor guide exactly, because the instructors were conducting the course within available time limits.

As the instructor, you may choose not to use the videotapes and deliver your own lectures. If you decide to do so, we recommend you review the videotapes to help you prepare your lectures.

Finally, if your organizations chooses, the videotapes may be circulated for reviewing without being connected to course delivery. Through this delivery method, more people will be introduced to the course concepts.

Tape 1:	"Redefining the Present"	1 hr., 18 min.
Tape 2:	"Finding Solutions in the Quality Environment"	1 hr., 45 min.
Tape 3:	"Justifying Decisions"	1 hr., 29 min.
Tape 4 :	"Managing Change in the Fire Service"	1 hr., 10 min.

Total Videotape Time 5 hr., 45 min.

COURSE GOALS

At the completion of this course, the students will be able to:

1. Employ creative approaches to identify problems having an impact on organizational effectiveness.
2. Given modern organizational problems, apply creative group problem-solving methods and describe the importance of continuous improvement within the fire service.
3. Quantify problems and solutions, and use the information to justify a recommendation.
4. Explain why people resist change and develop strategies for implementing change within the fire service environment.

TARGET AUDIENCES

Individuals presently assigned to management positions, e.g., chief officers who supervise company officers.

Individuals presently assigned to top-level management positions with limited opportunity for managerial development through formalized course work.

Company officers who are upwardly mobile within their organizations and whose chiefs of department wish to prepare them for increased managerial responsibility.

Administrative officers responsible for significant staff functions within the organization and who report directly to top management.

Firefighters assigned to positions with decisionmaking responsibilities.

COURSE SCHEDULE

MODULE		LENGTH
Module 0:	Welcome and Introduction	40 min.
Module 1:	Redefining the Present	3 hr.
Module 2:	Finding Solutions in the Quality Environment	3 hr., 5 min.
Module 3:	Justifying Decisions	3 hr., 20 min.
Module 4:	Managing Change in the Fire Service Environment	3 hr.
Module 5:	Course Conclusion	1 hr.
	Total Time:	14 hr., 5 min.

AID TO THE INSTRUCTOR

If you have questions about the material in preparation for delivering this course, you may contact the module author or Management Science Program Chair.

CERTIFICATE

A master copy of a Certificate of Training is included with this course package. You may issue this certificate with approval of the sponsoring organization.

FINAL EXAMINATION

1. Which of the following best describes the "settler" mentality?
 - a. Resisting change.
 - b. Taking risks.
 - c. Relying on intuition.
 - d. Challenging the *status quo*.

2. The process of Kaizen requires that mid-level managers undertake a new role of:
 - a. Facilitator of value-added processes.
 - b. Communicator of top-level procedures and rules.
 - c. Organizational undertaker.
 - d. Supervisor of work, scrutinizer of routine, and disciplinarian.

3. Which of the following is a criterion for impact objectives?
 - a. Number of inspections done.
 - b. Response time.
 - c. Number of education programs delivered.
 - d. Dollar amount of fire losses.

4. A block or barrier to creativity that is caused by a cramped work area or improper temperature is called
 - a. An emotional block.
 - b. An environmental block.
 - c. A cultural block.
 - d. A perceptual block.

5. Classify the following statement: The department will increase inspections by five to ten percent by June 30, 1998.
 - a. Mission statement.
 - b. Program objective.
 - c. Impact objective.
 - d. Goal.

6. The concept stating that an organization's various operations are brought together to form a different but common purpose is called
 - a. Level of trust.
 - b. Consequence management.
 - c. Resistance management.
 - d. Synergy.

7. The four states of transition to change include all of the following *except*:
 - a. Shock.
 - b. Retreat.
 - c. Ambivalence.
 - d. Adaptation.

8. The comparison of alternative proposals on the basis of the cost of a comparable measure of the benefit is the definition of:
 - a. Goal setting.
 - b. Impact objective setting.
 - c. Cost-benefit analysis.
 - d. Cost effectiveness assessment.

9. Which of the following is a basic purpose of environmental scanning?
 - a. To identify environmental hazards.
 - b. To document violations against EPA regulations.
 - c. To predict/anticipate likely trends which will have an impact on our organization.
 - d. To forecast critical weather conditions.

10. Which of the following best defines the word "paradigm"?
 - a. A frame of reference.
 - b. Value clarification.
 - c. Strategic decisionmaking.
 - d. Problem-solving.

11. Four strategies are available to the manager seeking to implement change. Which of the choices listed below is **not** an appropriate strategy?
- Identify employees most affected by the change and involve them in the process.
 - Transfer in employees more accepting of the change process.
 - Work to build trust between employees and administration.
 - Hold employees accountable for their work product.
12. Change may be defined as:
- To make different.
 - To modify.
 - To make distinctly different from what was.
 - All of the above are correct.
13. Benchmarking means
- Learning about best practice from others.
 - Giving the customer value-added service.
 - Trying to be a little better, every day, in every activity.
 - Making a product cheaper.
14. Which of the choices listed below is **not** one of the established reasons people resist change?
- A desire not to lose something of value.
 - Misunderstanding of the change.
 - A personal dislike for the manager.
 - A low personal tolerance for change.
15. Which of the factors listed below represents the modern "alternative" approach to management?
- Emphasis on certainty and control.
 - Emphasis on flexibility and adaptability.
 - Internal control.
 - Avoiding conflict.
16. The most important tool available to a fire service manager seeking to have change accepted in his or her organization is
- Level of trust.
 - Synergy.
 - Empathy.
 - Pay raises.

17. Classify the following statement: The department will reduce fires in multifamily residential structures by five to ten percent by June 30, 1998.
- a. Mission statement.
 - b. Goal.
 - c. Impact objective.
 - d. Program objective.
18. Given the three types of problems discussed in this course, which of the following **is not** an approach to be taken toward problem-solving?
- a. Solution requires mathematical calculation.
 - b. Solution requires more information.
 - c. Solution requires rearrangement of information.
 - d. Solution is blocked or hidden by present success.
19. The proper verb for a goal statement is
- a. Increase.
 - b. Decrease.
 - c. Maintain.
 - d. All of the above.
20. Kaizen means
- a. Learning about best practice from others.
 - b. Giving the customer value-added service.
 - c. Trying to be a little better, every day, in every activity.
 - d. Making a product cheaper.

ANSWER SHEET

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____
- 7. _____
- 8. _____
- 9. _____
- 10. _____

- 11. _____
- 12. _____
- 13. _____
- 14. _____
- 15. _____
- 16. _____
- 17. _____
- 18. _____
- 19. _____
- 20. _____

FINAL EXAMINATION ANSWER KEY

1. Which of the following best describes the "settler" mentality?
 - a. **Resisting change.**
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 - c. Relying on intuition.
 - d. Challenging the *status quo*.

2. The process of Kaizen requires that mid-level managers undertake a new role of:
 - a. **Facilitator of value-added processes.**
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 - b. **Program objective.**
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- a. Emphasis on certainty and control.
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16. The most important tool available to a fire service manager seeking to have change accepted in his or her organization is
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17. Classify the following statement: The department will reduce fires in multifamily residential structures by five to ten percent by June 30, 1998.
- a. Mission statement.
 - b. Goal.
 - c. **Impact objective.**
 - d. Program objective.
18. Given the three types of problems discussed in this course, which of the following **is not** an approach to be taken toward problem-solving?
- a. **Solution requires mathematical calculation.**
 - b. Solution requires more information.
 - c. Solution requires rearrangement of information.
 - d. Solution is blocked or hidden by present success.
19. The proper verb for a goal statement is
- a. Increase.
 - b. Decrease.
 - c. Maintain.
 - d. **All of the above.**
20. Kaizen means
- a. Learning about best practice from others.
 - b. Giving the customer value-added service.
 - c. **Trying to be a little better, every day, in every activity.**
 - d. Making a product cheaper.

***MODULE 0:
WELCOME AND
INTRODUCTION***

WELCOME AND INTRODUCTION

An optional introductory module (not included in the Student Manual) to be used when the entire course (five modules) is to be presented.

POINTS FOR THE INSTRUCTOR

This module is optional and should be used the first time you teach any of the modules or when the entire course is taught. Its purpose is to introduce the course and provide a structure into which the course materials will fit. While the modules can be taught in any order, the course was designed in a logical sequence, explained in this module. Also described here is the final exam. If you do not use this module, explain that the course contains a 20-question final exam and describe the applicable pass/fail requirements.

METHODOLOGY

This module uses lecture and introductions.

(Total Time: 40 min.)

40 min.	Lecture	
	Welcome and Introductions	IG 0-3
	Course Overview	IG 0-3
	Administrative Details	IG 0-9
	Course Materials	IG 0-9

AUDIOVISUAL

OHTs 0.1 to 0.7

OHT 0.1
40 min.
Lecture

I. WELCOME AND INTRODUCTIONS (15 min.)

A. Instructor introduction and welcome.

Welcome students to the class and briefly introduce yourself.

B. Student introductions.

Allow each student to introduce himself/herself briefly by stating

- name;
- department; and
- position/responsibilities.

Obviously, if everyone is already acquainted, you can skip formal student introductions and substitute a less formal "icebreaker" activity of your choice.

II. COURSE OVERVIEW (5 min.)

A. Course goals.

At the completion of this course, the students will be able to:

1. Employ creative approaches to identify problems having an impact on organizational effectiveness.
2. Given modern organizational problems, apply creative group problem-solving methods and describe the importance of continuous improvement within the fire service.

OHT 0.2

OHT 0.3

3. Quantify problems and solutions, and use the information to justify a recommendation.
4. Explain why people resist change and develop strategies for implementing change within the fire service environment.

OHT 0.4

B. Target audiences.

1. Individuals presently assigned to management positions, e.g., chief officers who supervise company officers (COs).
2. Individuals presently assigned to top-level management positions with limited opportunity for managerial development through formalized course work.
3. COs who are upwardly mobile within their organizations and whose chiefs of department wish to prepare them for increased managerial responsibility.
4. Administrative officers responsible for significant staff functions within the organization and who report directly to top management.
5. Firefighters assigned to positions with decisionmaking responsibilities.

OHT 0.5

C. Course modules.

1. Module 1: Redefining the Present.
2. Module 2: Finding Solutions in the Quality Environment.
3. Module 3: Justifying Decisions.
4. Module 4: Managing Change in the Fire Service Environment.
5. Module 5: Course Conclusion.

D. Course design.

Explain that the course, *Shaping the Future* is actually a contemporary approach to organizational problem-solving. As such, the individual modules are arranged in a logical and deliberate order, as described below.

1. Module 1: Redefining the Present provides suggested approaches to identifying and prioritizing organizational problems.
2. Module 2: Finding Solutions in the Quality Environment explains how to use Total Quality Management (TQM) concepts and practices in solving organizational problems.
3. Module 3: Justifying Decisions focuses on the benefits of explaining problems and proposed solutions in terms of their impact on delivery of services.
4. Module 4: Managing Change in the Fire Service Environment guides managers through the implementation of agreed-upon solutions.
5. Module 5: Course Conclusion.

E. Final exam.

A 20-question final exam has been included with the course. If students will be graded on this final exam, forewarn them at this point and briefly explain the "pass/fail" requirements.

OHT 0.6

III. ADMINISTRATIVE DETAILS (15 min.)

Review any relevant administrative matters. Possible items to cover are listed below.

- A. Presentation schedule (days and times).
- B. Required paperwork.
- C. Coffee breaks.
- D. Location of phones, restrooms, vending machines, and fire exits.

OHT 0.7

IV. COURSE MATERIALS (5 min.)

SM p. 1-1

Acquaint students with the Student Manual format by asking them to turn to the appropriate page in the Student Manual as you describe it.

Each module includes

SM p. 1-1

A. Objectives.

SM p. 1-1

1. Terminal objectives describe what students should be able to do "on the job" after completing the module.
2. Enabling objectives describe what will be accomplished during the module presentation.

WELCOME AND INTRODUCTION

- SM p. 1-3
- B. Narrative.
1. Each module includes a detailed narrative summary of **all** material covered in the module.
 2. This is intended to be used as a postcourse review.
- SM p. 1-13
- C. Activity worksheets.
- SM p. 1-25
- D. Bibliographies.
1. The annotated bibliography is limited to books and articles discussed in the module.
 2. The general bibliography includes general reference materials.
- SM p. 1-27
- E. Videotapes.

Discuss this section only if you plan to use the videotapes to deliver the lecture portions of the course.

1. The NFA has included a videotape of the lecture portion of the modules.
2. The tapes are a result of the course being taught through a two-way fiber optic instructional system, in cooperation with the Iowa Fire Service Institute.
3. The lecturers were members of the course development team.
4. We will turn off the tapes at the activity cues and conduct each activity, then process the activity before returning to the tape.

If the videotapes are available for additional distribution, please inform the students how the tapes may be obtained.

Ask if students have any questions about the course. When all questions have been addressed, proceed to the delivery of Module 1.

MODULE 1: REDEFINING THE PRESENT

TERMINAL OBJECTIVE

The students will be able to employ creative approaches to identify problems having an impact on organizational effectiveness.

ENABLING OBJECTIVES

The students will:

- 1. Use an environmental scanning process to identify existing or potential organizational problems.*
 - 2. Analyze the effect of paradigms on creative problem identification.*
 - 3. Identify specific fire service paradigm shifts which would improve future organizational effectiveness.*
-

POINTS FOR THE INSTRUCTOR

The basic intent of the module is to help students begin to look at their organizations and at their own managerial activities from a new global perspective. The importance of recognizing our "fit" in the big picture and our dependence on external factors over which we have no control is the main focus of the first half of the module.

The remaining material focuses on the concept of paradigms. After a brief explanation, the students are asked to identify critical fire service paradigm shifts which have occurred over the past 10 to 15 years and--more importantly--what paradigm shifts they anticipate.

While instructing this module, and other *Shaping the Future* modules, be aware of the potential for "finger pointing" during interactive lectures and small group activities. Whenever organizational problems are being discussed, there's a natural tendency to blame "them" rather than accepting personal responsibility at one's own level of authority. Should this occur, the instructor should tactfully remind students that once they accept a supervisory position, they also must accept responsibility for problem-solving.

METHODOLOGY

This module uses lecture and small and large group activities.

(Total Time: 3 hr.)

50 min.	Lecture	
	Objectives	IG 1-5
	Vision: The Power to Shape the Future	IG 1-5
	Environmental Scanning	IG 1-15
30 min.	Small Group Activity 1.1	
	Environmental Scanning	IG 1-27
20 min.	Lecture	
	Forming and Shifting Paradigms	IG 1-37
20 min.	Large Group Activity 1.2	
	Fire Service Paradigms	IG 1-45
10 min.	Lecture	
	The Reframing Process: Prelude to a Paradigm Shift	IG 1-49
45 min.	Small Group Activity 1.3	
	Reframing the Present	IG 1-53
5 min.	Lecture	
	Summary	IG 1-57
	Annotated Reference List	IG 1-59
	Bibliography	IG 1-61

AUDIOVISUAL

OHTs 1.1 to 1.27

Video: "Redefining the Present" (optional)

INSTRUCTOR PREPERATION

Review the course materials. In preparation for your lecture, review videotape 1, "Redefining the Present," or use the tape to deliver the lecture.

NATIONAL STANDARD

The following section of NFPA 1021 (1992) is addressed in whole or in part in this module: 4-4.1.

OHT 1.1
50 min.
Lecture

I. OBJECTIVES (5 min.)

OHT 1.2

A. Terminal Objective.

The students will be able to employ creative approaches to identify problems having an impact on organizational effectiveness.

OHT 1.3

B. Enabling Objectives.

The students will:

1. Use an environmental scanning process to identify existing or potential organizational problems.
2. Analyze the effect of paradigms on creative problem identification.
3. Identify specific fire service paradigm shifts which would improve future organizational effectiveness.

II. VISION: THE POWER TO SHAPE THE FUTURE (20 min.)

A. Global perspective--where are we in the "big picture"?

SM p. 1-3
OHT 1.4

Show OHT 1.4 and ask the students to describe the implications for managing local fire organizations when viewed from this perspective. A copy of this diagram is in the Student Manual.

Possible responses are discussed on the following page.

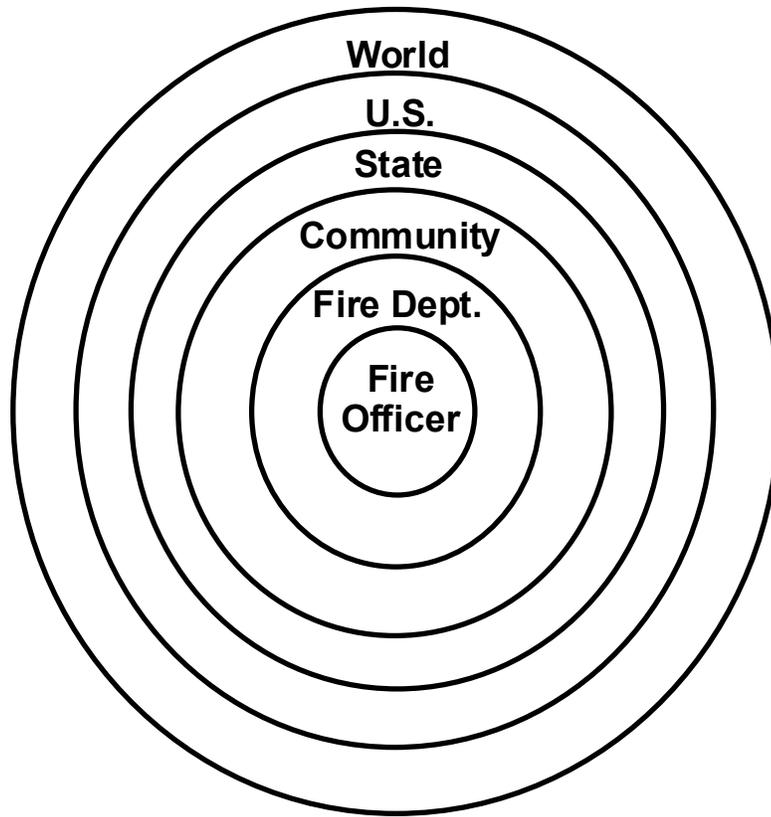


Figure 1-1
The "Big Picture"

1. We don't control our own destiny.
2. We are affected daily by external factors--including those right outside our doors and those at the other end of the world.
3. We no longer have the luxury of managing within an individualistic, rational, predictable organization.
4. We need to learn how to cope with increasingly complex and ambiguous environments.

Emphasize that although it's important to recognize our vulnerability to being influenced by external factors over which we have no control, it's equally important to know that individual officers within the fire service often create/cause significant changes outside their sphere of control!

Ask students for examples of individual officers who initiated significant changes

- in their department;
- throughout the community or state;
- across the nation; or
- around the world.

If students can't think of any individual officers who created a significant international influence, share the following examples.

Example #1:

In 1993, John Jordon, a volunteer firefighter from Rhode Island, single-handedly organized an international emergency relief effort to provide desperately needed firefighting equipment for the Sarajevo (Bosnia) Fire Department.

Example #2:

Metro-Dade County (FL) and Fairfax County (VA) fire departments have specially trained "Urban Search and Rescue Teams" which travel all over the world to assist in disaster relief efforts.

B. Coping with ambiguity.

Point out that management research stresses the fact that modern organizations are extremely complex and that external and internal factors create a sense of ambiguity.

Ask students to define ambiguity. Responses may include lack of clarity, confusion, and/or vagueness.

OHT 1.5

Flipchart

Then ask the students to name specific causes/sources of ambiguity in today's public sector organizations--what factors make people unsure about what's happening.

List responses on flipchart.

Make sure items listed below have been included.

1. Constant change.
2. Lack of vision/guidance.
3. Insufficient/Ineffective communication throughout the organization.
4. Inability to define/prioritize problems.
5. Value conflicts throughout the organization (between individuals, among groups, etc.).
6. Incomplete, inaccurate, and/or conflicting information.
7. Inability to agree on how to interpret available information.
8. Conflict over long-term goals.
9. Indecision about whether individuals or teams should have priority.
10. Shortage of resources.
11. Not sure who's supposed to do what (role ambiguity).
12. Conflict over how to accomplish goals.
13. Never quite sure how to determine if we have succeeded.

OHT 1.6

Ask what impact the preceding factors have on a mid-level officer's ability to manage effectively.

Allow participants to "vent" about how tough it is to be "in the middle."

Then emphasize that much of the material covered in this module--and throughout the two-day course--at first glance may appear to be too global for the mid-manager's attention. However, if today's mid-level managers hope to survive amid the chaos of modern organizational life, these "global" skills will be critical!

Discuss the following quote:

"Future sense involves the paradoxical attitude of not completely understanding today's chaos, not knowing what the future will be, and yet believing we can be a part of creating the kind of future we desire." (Gelatt, 1993)

Summarize this section with the following discussion on expanding your perspective.

C. Expanding your managerial perspective.

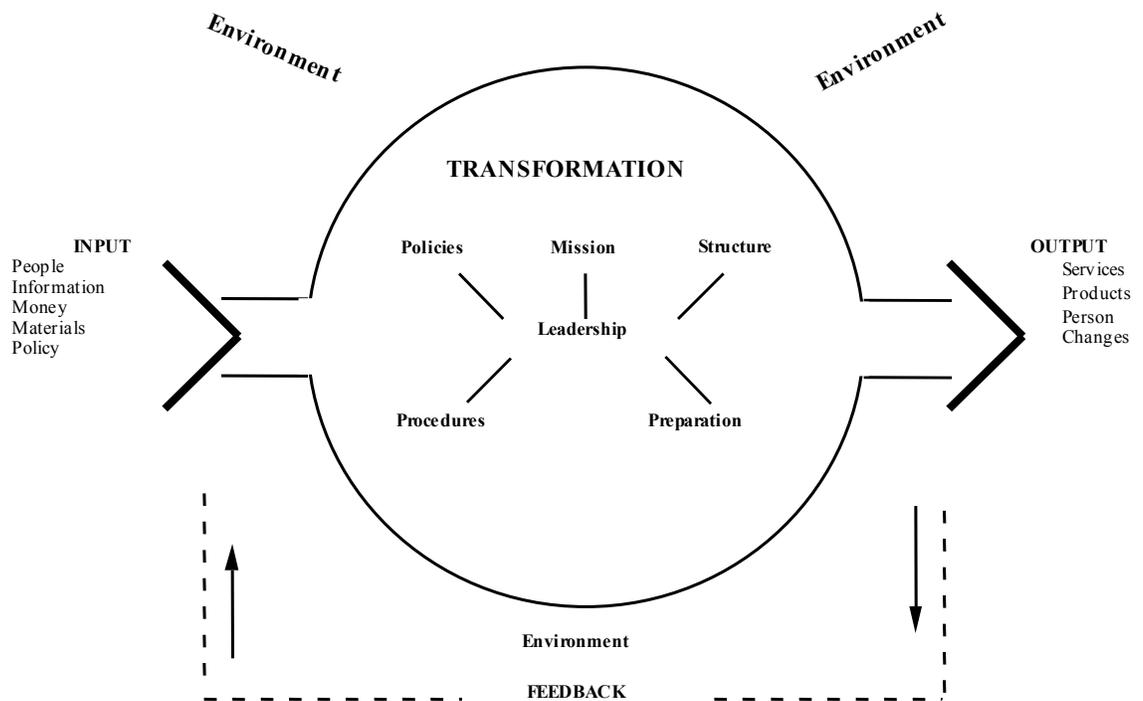
SM p. 1-5

Use the following series of OHTs to facilitate a discussion comparing the old "traditional" approach to management to the new "alternative" approach. These OHTs are Figure 1-2 in the Student Manual.

- 3. Attempting to visualize environmental factors (internal and external) that have an impact on our ability to manage effectively.
- 4. A **continuous** process--not just a temporary *ad hoc* reaction to an unexpected crisis.

SM p. 1-7
OHT 1.15

Use OHT 1.15 to explain a "systems approach" to organizational management. This OHT is Figure 1-3 in the Student Manual.



- 5. The environmental scanning process is a fundamental part of a "systems approach" to organizational management.
 - a. Organizations have a symbiotic relationship with their external environment.

- The organization depends on the environment to provide what's needed for survival (inputs).
 - The organization then transports these inputs in various ways for the purpose of creating/delivering expected products/services (outputs).
 - The environment is enriched by the organizational outputs.
- b. Shifts in the environment cause changes within the organization.

OHT 1.16

Ask students how outputs affect future inputs. Emphasize that when outputs (services delivered) are deemed to be high quality/valuable by the community, future inputs (e.g., budget allocations) probably will remain secure. On the other hand, if outputs are deemed to be low quality/nonvaluable, future inputs probably will be in jeopardy!

- B. Purposes.
1. To understand and manage the present situation better.
 2. To predict future events/issues which are likely to have an impact on the organization.
 3. To develop strategies for adapting to, learning from, and influencing our internal and external environments.

C. Outcomes.

OHT 1.17

Discuss the following quote:

"In our normal thought processes, most of us are problem-solvers. We gather and analyze facts and data to reach an answer or a solution..."

"As environmental scanners, however, we start from a known position and use facts and data to develop **questions**, not answers, and **problems**, not solutions..." (Stoffels, 1982)

OHT 1.18

D. Issues and trends to monitor in the external environment.

1. Information and technology.
2. Economic and financial.
3. Governmental/Political.
4. Human resource.
5. Service delivery.

OHT 1.19

E. Issues and trends to monitor in the internal environment.

1. Changing employee values.
2. Organizational culture shifts.
3. Responsiveness/Effectiveness of the organizational **structure**.
4. Relevance/Clarity/Acceptance of the stated organizational mission/philosophy.

OHT 1.20

F. How to monitor.

For each environmental factor/influence, conduct a "SWOT" analysis.

1. Strengths.
2. Weaknesses.
3. Opportunities.
4. Threats.

SM p. 1-9

Refer students to the sample "SWOT" analysis in their Student Manuals.

SAMPLE "SWOT" ANALYSIS

Trend: Total Quality Management (TQM)

Let's suppose the fire department has observed an increasing trend among other city departments to institute TQM programs within their organizations. So, it does a "SWOT" analysis to try to determine whether or not to "join the crowd."

STRENGTHS--what strengths do we now have which would help in implementing a TQM program?

- A culture which thrives on doing things well.
- A value for quality.
- Excellent technical abilities throughout the work force.
- An excellent training division.
- Highly educated, progressive managers.

WEAKNESSES--what weaknesses do we now have which might hamper efforts to implement a TQM program?

- Lack of a quantitative database for assessing the quality of service delivery.
- Lack of a quantitative database for comparing customer expectations to customer satisfaction.
- Lack of knowledge about the TQM process.
- Lack of an established tradition of analytical problem-solving.

OPPORTUNITIES--what new opportunities might "go along with" implementation of a TQM program?

- The City Manager is a real TQM fan--we'll score points with her!
- It will make us look good in the eyes of the public.
- It's a great way to let the public know we really care.
- It will be a great opportunity to empower individuals throughout the organization.

THREATS--is the implementation of a TQM program likely to pose a threat to anyone?

- We may discover we're not as good as we thought!
- It will probably require a shift in resource allocation.
- Poor preparation can ruin the whole program and make us look bad.

Conclude the discussion by asking for possible benefits of doing a "SWOT" analysis. Expected responses include

- Clear picture of what you can expect.
- Objective data on which to base decisionmaking.
- Solid, factual information which you can use to convince others to "go along."

Then, if time permits, ask students to identify present trends or expected/desired changes in their own organizations for which a "SWOT" analysis might be helpful.

30 min.
Small Group
Activity 1.1

Activity 1.1

Environmental Scanning

Purpose

To identify specific ways in which present external trends are likely to have an impact on the future management of fire service organizations.

Directions to Students

1. Refer students to their Student Manuals.
2. Read through directions and answer any questions.
3. Then review Worksheets #1 through #5 asking for examples of possible impacts for the first item on each worksheet.
4. Divide class into five groups and assign each group a specific area.
5. Allow about 10 minutes for small group work. Reconvene the large group and get a report from each of the groups. (Encourage students to report on flipcharts and to take notes on likely impacts observed by other groups.)

Summary

Conclude the activity by stressing the "generic" nature of the trends discussed in this activity. Emphasize the importance of having students scan their **specific** local environment to monitor evolving trends, predict likely impacts, and develop coping strategies for each expected impact.

SM p. 1-13

Flipchart

STUDENT ACTIVITY WORKSHEET

Activity 1.1

Environmental Scanning

Purpose

To identify specific ways in which present external trends are likely to have an impact on the future management of fire service organizations.

Directions

1. In your small group, complete one of the worksheets on the following pages, as assigned by the instructor.
2. For each trend listed on your assigned worksheet, brainstorm and list probable organizational impacts--both positive and negative. Use a flipchart to record these impacts.
3. If time permits, identify other present trends in your assigned category and list probable organizational impacts.
4. Designate a spokesperson to report group findings to the rest of the class.

STUDENT ACTIVITY WORKSHEET

Activity 1.1 (cont'd)

Worksheet #1

Information and Technology Trends

Trend	Likely Impacts
• Telecommunication advances	
• Office automation	
• Robotics	
• Computer technology	
•	
•	
•	
•	
•	
•	
•	

STUDENT ACTIVITY WORKSHEET

Activity 1.1 (cont'd)

Worksheet #2

Economic and Financial Trends

Trend	Likely Impacts
• Tax limitations	
• Less federal support	
• Global competition	
• Downsizing	
• Alternative revenue sources	
•	
•	
•	
•	
•	
•	

STUDENT ACTIVITY WORKSHEET

Activity 1.1 (cont'd)

Worksheet #3

Governmental/Political Trends

Trend	Likely Impacts
• Citizen involvement	
• Special interest groups	
• Regional problem-solving	
• "Right to Know" laws	
• Equal opportunity	
•	
•	
•	
•	
•	
•	

STUDENT ACTIVITY WORKSHEET

Activity 1.1 (cont'd)	
Worksheet #4	
Human Resource Trends	
Trend	Likely Impacts
• Cultural diversity	
• Work force migration	
• Increased education	
• Aging population	
• Quality of work life demands	
• Women in the work force	
• Employee empowerment	
•	
•	
•	
•	

STUDENT ACTIVITY WORKSHEET

Activity 1.1 (cont'd)	
Worksheet #5	
Service Delivery Trends	
Trend	Likely Impacts
<ul style="list-style-type: none">• TQM programs	
<ul style="list-style-type: none">• Focus on customer satisfaction	
<ul style="list-style-type: none">• Alternative delivery mechanisms<ul style="list-style-type: none">- Privatization- Consolidation- Regionalization	
<ul style="list-style-type: none">• Incident Command System	
<ul style="list-style-type: none">• More EMS/Less firefighting	
<ul style="list-style-type: none">•	

20 min.
Lecture
OHT 1.21

IV. FORMING AND SHIFTING PARADIGMS (20 min.)

- A. What is a paradigm?
1. A point of view, a frame of reference, a way of seeing things. (Gelatt, 1993)
 2. A set of rule sand regulations that establishes boundaries and tells you how to behave within those boundaries. (Barker, 1992)
 3. Our personal views of "the way things are" and "the way things ought to be."

Illustrate the concept of paradigms by asking students what they think is an appropriate formal greeting method. They'll probably say standing up and shaking hands. Point out cultural differences which create completely different paradigms, e.g., Oriental bowing, the French expectation of a kiss on each cheek.

Then ask for other examples of nonfire service paradigms. Possible responses include

- In the U.S. only women wear skirts; this is not the case in Scotland.
- We usually expect our salad at the beginning of a meal. In Italy it comes **after** the main course.
- Most of us think it's correct to drive on the right side of the road. This is not true in Great Britain.

4. Example:

A critic once commented to Cezanne: "That doesn't look anything like a sunset."

Pondering his painting, Cezanne responded: "Then you don't see sunsets the way I do."

(Bolamn and Deal, 1991)

Ask students to identify the obvious advantages of the paradigm process. Responses should include a sense of security, the comfort of knowing what's expected, etc.

Then point out that there are also disadvantages, as discussed below.

OHT 1.22

B. How paradigms affect problem-solving.

1. Our paradigms create the lenses through which we see our present realities and future possibilities.
2. Formation of personal/organizational "blind spots"--because a way of **seeing** is also a way of **not seeing!**
3. Eventually, the more entrenched our paradigms become, the less able we are to change.

C. Paradigm paralysis.

1. Inability to shift one's point of view.
2. Being stuck in one specific frame of reference.
3. Becoming incapable of seeing that things are no longer the way they used to be.

OHT 1.23

- D. The cure: shifting your paradigm. (Gelatt, 1993)
1. "Flexpertise helps you get off the paradigm."
 2. "Flexpertise" is the ability to continually adapt, innovate, and change.
 3. Being able to abandon existing paradigms in favor of more appropriate new paradigms.
 4. Unfreezing and refreezing beliefs, knowledge, and attitudes.

OHT 1.24

Discuss the following quote and its implications for mid-level managers.

"Making up one's mind, an essential skill of the past, may now be no more important than a new essential skill of the future--learning how to **change** one's mind." (Gelatt, 1993)

- E. The pioneer versus the settler mentality. (Barker, 1992)

OHT 1.25

Ask students to describe the difference. Barker describes it as follows.

1. Settlers.
 - a. Accept the *status quo*.
 - b. Resist change.
 - c. Are low risk-takers.
 - d. Relay on "the numbers."

- e. Want assurance that it's "safe" to "move in."
2. Pioneers.
 - a. Challenge the *status quo*.
 - b. Seek out change.
 - c. Are high risk-takers.
 - d. Rely on intuition.
 - e. Make it safe for settlers.

Point out that each of us is probably a "settler" in some areas of our life and a "pioneer" in others.

Ask students for examples of areas in which **they** are presently pioneers.

Then ask for examples of fire department "pioneers" who have had a national impact on the fire service. Possible responses include

- Arlington, VA, was the first to hire a full-time female firefighter.
- Mountain View, CA, developed the first formal "Master Plan."
- Plano, TX, uses the local cable TV network to tie together all fire department computers.

20 min.
Large Group
Activity 1.2

Activity 1.2

Fire Service Paradigms

Purpose

To become aware of typical fire service paradigms that limit our ability to see the world as others see it.

Directions to Students

SM p. 1-21

1. Ask students to brainstorm and list paradigm shifts which have occurred in the fire service over the past 10 to 15 years.
2. Tell them to list their responses on the worksheet in their Student Manuals. The first line is filled out as a sample for their use.
3. A list of suggested responses is included on the following Student Activity Worksheet.

IG p. 1-47

Summary

Conclude the activity by stressing the importance of recognizing and shifting inappropriate paradigms.

STUDENT ACTIVITY WORKSHEET

Activity 1.2

Fire Service Paradigms

Purpose

To become aware of typical fire service paradigms that limit our ability to see the world as others see it.

Directions

Brainstorm and list paradigm shifts which have occurred in the fire service over the past 10 or 15 years. The first line is filled out as a sample for your use.

Old Paradigm	New Paradigm
Sample: Firefighting is our primary mission.	Sample: EMS is our primary mission.
<i>Suggested responses: A predominantly white, young, and male work force.</i>	<i>A culturally diverse work force which includes females and minorities.</i>
<i>Top-down, paramilitary management (Theory X).</i>	<i>Bottom-up, participative management (Theory Y).</i>
<i>We know what's best for the community.</i>	<i>The customer is in charge.</i>
<i>Tough-guy macho smoke-eaters.</i>	<i>Safety-conscious professionals.</i>
<i>"10"-code communication.</i>	<i>ICS terminology.</i>

10 min.
Lecture

V. THE REFRAMING PROCESS: PRELUDE TO A PARADIGM SHIFT (10 min.)

A. Reframing defined.

OHT 1.26

Discuss what happens when we "reframe" a photo--the photo doesn't change but our perspective does change.

1. Changing the lens by which we're viewing the world.
2. Altering our perspective--looking at the same situation through a variety of lenses.
3. Deliberately looking at the present situation from a different vantage point.
4. Refocusing.

Ask students for specific examples of things we can do at work to help us "reframe" various situations. Possible responses include

- Ask questions and listen to the answers.
- Use task forces and committees to generate more ideas.
- Put yourself in someone else's place and try to understand his/her position.
- Use focus groups to get information from employees and citizens.

- B. Purpose.
 - 1. To generate a creative approach to problem identification.
 - 2. To suggest possible paradigm shifts needed to improve the organization.

- C. One reframing technique. (Barker, 1990)

Identify specific things that are presently impossible which, if they became possible, would significantly alter the way you do business.

45 min.
Small Group
Activity 1.3

Activity 1.3

Reframing the Present

Purpose

To use the reframing process to assist in creative problem identification and in determining potential paradigm shift requirements.

Directions to Students

1. Divide class into small groups.
2. Refer students to the Activity Worksheet in their Student Manuals. Read through directions and answer any questions.
3. Allow about 20 minutes for small group work. Reconvene class and allow each group to report.

Summary

Conclude the activity by encouraging students to continue the exercise back home.

SM p. 1-23

Flipcharts

STUDENT ACTIVITY WORKSHEET

Activity 1.3

Reframing the Present

Purpose

To use the reframing process to assist in creative problem identification and in determining potential paradigm shift requirements.

Directions

In your small groups, brainstorm and list on a flipchart responses to the following questions.

"What is it that you cannot do today which, if you **could** do it, would significantly alter the way you do business?"

5 min.
Lecture

OHT 1.27

VI. SUMMARY (5 min.)

- A. The environmental scanning process is a useful tool for identifying existing or potential organizational problems.
- B. Our paradigms provide a sense of security in the midst of a complex and ambiguous environment.
- C. We need to reassess existing paradigms constantly and be willing to adapt, innovate, and change when appropriate.

ANNOTATED REFERENCE LIST

Barker, Joel A. *Discovering the Future* (3-part video series: "The Business of Paradigms," "The Power of Vision," and "Paradigm Pioneers"). Burnsville, MN: Charthouse International Learning Corp.

Video #1, "The Business of Paradigms," helps answer the question: "Why is it so difficult to anticipate the future?"

Video #2, "The Power of Vision," tries to answer the question: "Why should we take the time to think about the future?" The premise is that creating a positive vision of the future is profoundly empowering.

Video #3, "Paradigm Pioneers," explains the risks of a "settler mentality" and emphasizes the importance of "Paradigm Pioneers"--those who drive new paradigms from rough concept into practicality.

Gelatt, H.B. "Future Sense--Creating the Future." *The Futurist*, September-October 1993, pp. 9-12.

Gelatt says it's important to **create** our future, not just try to predict it. But to do so, we need to overcome four "neuroses" which may get in our way (Future Phobia, Paradigm Paralysis, Infomania, and Reverse Paranoia).

ICMA. "Future Challenges, Future Opportunities: The Final Report of the ICMA Future Visions Consortium." *Public Management*, July 1991, Center Insert.

In 1988 the ICMA launched the Future Visions Consortium, a group of 65 local government managers whose charge was to identify developments likely to affect local government and to develop strategies for coping with them. The report summarizes the consortium's final predictions on observed critical trends and their implications for local government in the coming decade.

Pfeiffer, J. William, Leonard D. Goodstein, and Timothy M. Nolan. *Applied Strategic Planning: A How to Do It Guide*. San Diego: University Associates, Inc., 1986.

Pfeiffer has long been recognized as an excellent source of information on the strategic planning process. This text is a comprehensive, easy-to-follow guide for anyone interested in getting started.

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Ackoff, Russell L. *The Art of Problem Solving*. New York: John Wiley and Sons, 1978.

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Bolman, Lee G., and Terence E. Deal. *Reframing Organizations*. San Francisco: Jossey-Bass, 1991.

Coleman, Ron. *The Politics of Fire Prevention*. (Audiotape) Emmitsburg, MD: National Fire Academy, 1994.

Fincher, Luther L. "Chief Concerns. Setting the Boundaries for Success." *Firehouse*, September 1993, p. 10.

Flamholtz, Eric G., Yvonne Randle, and Sonya Sackmann. "The Tenor of Today." *Personnel Journal*, June 1987, pp. 61-70.

Gordon, Gerald L. *Strategic Planning for Local Government*. Washington, DC: International City/County Management Association, 1993.

Kuhn, Thomas. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press, 1962.

McCaskey, M.B. *The Executive Challenge: Managing Change and Ambiguity*. Marshfield, MA: Pitman, 1982.

Pfeiffer, J. William, ed. *Strategic Planning, Selected Readings*. San Diego: University Associates, Inc., 1986.

Stoffels, John D. "Environmental Scanning for Future Success." *Managerial Planning*, November/December 1982, pp. 4-12.

Van Gundy, Arthur B. *Managing Group Creativity*. New York: American Management Association, 1984.

MODULE 2: FINDING SOLUTIONS IN THE QUALITY ENVIRONMENT

TERMINAL OBJECTIVE

Given modern organizational problems, the students will be able to apply creative group problem-solving methods and describe the importance of continuous improvement within the fire service.

ENABLING OBJECTIVES

The students will:

- 1. Define three types of problem-solving approaches.*
 - 2. Identify personal barriers to their creativity.*
 - 3. Define the concept of "Kaizen."*
 - 4. Define the term "benchmarking."*
 - 5. Identify three advantages realized through benchmarking.*
-

POINTS FOR THE INSTRUCTOR

This module acquaints the students with the need for creative thinking within groups, the benefits of solving problems within groups, and employing the continuous improvement process within the organization through benchmarking. The module addresses situations in which the students will be involved in decisionmaking roles outside the emergency management arena. The situations found in this module are administrative and supervisory in nature--allowing for time to establish priorities, determine specific problems, and evaluate alternatives.

The students are introduced to three types of problems: problems which require information to solve; problems which require restructuring to solve; and problems which are hidden or do not yet exist--those which invite gradual, continuous improvement. It is the third problem and the finding of its solutions which is the focus of this module. The student examines the common barriers to creativity and uses a self-analysis instrument to determine his/her own barriers to creativity.

The students are introduced to divergent and convergent thinking, then allowed to experiment, through an activity, with divergent problem-solving approaches. The concepts of "Kaizen" and "benchmarking" are explained, and the students suggest how the fire department can create an environment for continuous improvement. Finally, the students are made aware of factors that influence creativity in the workplace.

The instructor should approach this module with a constant emphasis on the importance of continuous improvement within the fire service organization. It is vital that modern fire service organizations empower employees and strive to improve services, on a continual basis, to their customers (citizens).

METHODOLOGY

This module uses lecture, discussion, and individual and small group activities.

(Total Time: 3 hr., 5 min.)

35 min.	Lecture	
	Objectives	IG 2-5
	What is a Problem?	IG 2-5
	Thinking and Problem-Solving	IG 2-13
20 min.	Individual Activity 2.1, Part 1	
	Inventory of Creative Thought and Innovative Action	IG 2-17
15 min.	Lecture	
	Thinking and Problem-Solving (cont'd)	IG 2-27
10 min.	Individual Activity 2.1, Part 2	
	Inventory of Creative Thought and Innovative Action	IG 2-31
10 min.	Lecture	
	Problem-Solving Styles Within a Problem-Solving Model	IG 2-39
30 min.	Individual/Small Group Activity 2.2	
	Divergent Thinking and Problem-Solving	IG 2-49
30 min.	Lecture/Discussion	
	"Kaizen"--Continuous Improvement	IG 2-55
	Benchmarking	IG 2-65
20 min.	Small Group Activity 2.3	
	Benchmarking the Classroom	IG 2-71
15 min.	Lecture/Discussion	
	Benchmarking (cont'd)	IG 2-75
	Summary	IG 2-77
	Annotated Reference List	IG 2-81
	Bibliography	IG 2-85

AUDIOVISUAL

OHTs 2.1 to 2.40

Video: "Finding Solutions in the Quality Environment" (optional)

INSTRUCTOR PREPARATION

Review the course materials. In preparation for your lecture, review videotape 2, "Finding Solutions in the Quality Environment," or use the tape to deliver the lecture.

NATIONAL STANDARD

NFPA 1021 does not explicitly address group problem-solving, decisionmaking, creativity, benchmarking, or continuous improvement. However, such skills may be implicitly addressed or used within the following sections:

Fire Officer I	2-2.1, 2-2.6, 2-4.3, 2-13.2
Fire Officer II	3-2.1, 3-2.2, 3-10.2, 3-11.2
Fire Officer III	4-2.2, 4-3, 4-4, 4-5.2, 4-5.5, 4-10, 4-13
Fire Officer IV	5-2, 5-5.2, 5-5.9, 5-10.3

OHT 2.1
35 min.
Lecture

Summarize the previous module in the course *Shaping the Future*, or illustrate that the first step in the problem-solving process is the creative identification and clarification of the problem. In this module, creative approaches to solving the problem will be examined.

OHT 2.2

I. OBJECTIVES (5 min.)

A. Terminal Objective.

Given modern organizational problems, the students will be able to apply creative group problem-solving methods and describe the importance of continuous improvement within the fire service.

OHT 2.3

B. Enabling Objectives.

The students will:

1. Define three types of problem-solving approaches.
2. Identify personal barriers to their creativity.
3. Define the concept of "Kaizen."
4. Define the term "benchmarking."
5. Identify three advantages realized through benchmarking.

II. WHAT IS A PROBLEM? (15 min.)

OHT 2.4
Flipchart

Ask students to define a problem--what is it? Use a flipchart to record answers.

Suggested answers:

- something unsolved or unclear;
- difference between what is and what you would like something to be;
- a state of discomfort;
- a state of confusion;
- opportunity to grow; or
- paradigm shift.

OHT 2.5

A. Three common types of problems. (de Bono, 1970)

1. Solution requires more information.

Example: A fire is reported on Central Avenue. There are five separate sections of Central Avenue throughout the community.

Ask students how they will determine to which section of Central Avenue they should respond.

Answer: An address number or cross streets are required.

2. Solution requires a rearrangement of information or restructuring of information or resources.

Example: The fire department wants to implement a comprehensive building inspection program to inspect all commercial occupancies annually, with no additional budget increases.

Ask students how the department can do it.

Answer: Use existing suppression personnel as inspectors.

3. Solution is blocked or hidden by present success--"It ain't broke."

Example: A successful fire department wants to discover ways to improve customer satisfaction in the community proactively, to avoid possible budget cuts.

Ask how fire departments can do that.

Answer: Examine customer needs and make small incremental improvements which give customers more services than they expect.

Examples: Free blood pressure checks and neighborhood programs on life safety--balloons for kids.

OHT 2.6

B. Finding hidden solutions.

1. This third type of common problem will be the emphasis of this module.
2. Important to modern organizational functioning.

Ask students why finding solutions to hidden problems is important for the fire service today.

- a. Citizen expectations for quality service.
- b. Only way to improve service in a proactive way.
- c. Fire service **must** provide customers **more** than they were expecting.

3. This approach to problem-solving is what has made Japan successful in the world competition for quality.

C. Private sector examples.

1. Mainframe computers.
 - a. Sperry-Univac invented.
 - b. IBM perfected.
 - c. Ultimately, IBM--desktop PC.
2. Quartz movement for watches.
 - a. Swiss invented.
 - b. Seiko and Texas Instruments perfected.
3. Overnight mail.
 - a. U.S. Postal Service--too expensive.
 - b. Federal Express did it.

Ask if 20 years ago anyone needed personal computers, a quartz watch, or overnight mail delivery.

Answer: No, not really.

Ask what about today--do you have or use them because you think you should?

Make the point that most value-added products and services are not necessities. Rather, we, as consumers, discover them through marketing initiatives and then require them as essential to our life.

Point out that mid-level managers need to create this culture of finding hidden solutions among their subordinates.

Our needs change because someone was looking at hidden solutions.

- D. Fire service examples.
 - 1. Emergency medical services.
 - a. 25 years ago--no EMS.
 - b. 1990s--most fire departments offer EMS.
 - 2. Hazardous materials response.
 - a. 25 years ago--virtually none.
 - b. 1990s--full response.

Point out that the subject of continuous improvement will be discussed later in this module; this module focuses on proactive, rather than reactive, problem-solving.

Let's now look at how thinking, creativity, and limits to creativity all figure into that challenge.

OHT 2.7

OHT 2.8

III. THINKING AND PROBLEM-SOLVING (15 min.)

- A. Creativity and innovation ability. (Martin, 1990)
 - 1. Ability to be creative is critical for modern problem-solving.
 - 2. Ability to be creative is dependent on internal factors over which we have personal control.

- a. Willingness to risk.
 - b. Being open to new experiences.
 - c. Willingness to think flexibly about issues.
 - d. Ability to deal with conflicting information.
 - e. Lack of fear of failure.
 - f. Unhindered by criticism or praise.
3. Ability is dependent on external factors which may not be under our own control.
- a. Atmosphere.
 - b. Empathetic surroundings.
 - c. Managerial style of supervisor.
 - d. Feeling safe and secure in making decisions.
 - e. Being free to think and feel.
 - f. Being free from strict scrutiny.

Point out that all of these factors that assist creativity can be drastically hindered by one or more barriers. We next will examine barriers that inhibit an individual's ability to think creatively.

20 min.
Individual
Activity 2.1, Part 1

Activity 2.1, Part 1

Inventory of Creative Thought and Innovative Action

Purpose

To identify barriers to creative thought.

The six categories students will examine are

1. Barriers related to concept of self: self-esteem, self-confidence, handling of rejection, and ability to confront differing opinions.
2. Barriers related to need for conformity: inclination to break away from pattern, to take risks, to express one's ideas, to scrutinize traditional views, and to challenge standard practices.
3. Barriers related to ability to abstract: tendency to use the unconscious mind, to view things in holistic or visual ways, and to rely on intuition.
4. Barriers related to ability to use systematic analysis: tendency to use the conscious mind, to apply logic, to think sequentially, to organize ideas, and to rely on facts or data.
5. Barriers related to task achievement: work patterns, persistence, attitudes toward others, and resourcefulness.
6. Barriers related to physical environment: variables associated with physical surroundings, distractions, personal space, and privacy.

SM p. 2-15

Directions to Students

1. Direct the students to the instrument in their Student Manual.
2. The instrument is not a test. Rather, it is a tool by which the students may understand their capabilities to approach problems creatively.
3. No one else will see the individual student responses. The instrument is for the student's personal use and feedback.
4. Students should not spend a lot of time pondering each response--the first guess is usually the best choice. Above all be honest with yourself.
5. Read the instructions aloud as the students follow along.
6. Allow enough time for all students to finish.
7. Grading the instrument.
 - a. Direct students to the scoring sheet in the Student Manual.
 - b. Read the instructions aloud as the students follow along.
 - c. Allow students to calculate their scores.

SM p. 2-19
IG p. 2-23

Resume the lecture, covering "Barriers to Creative Thought." Ask students to set the instrument aside for the time being. Continue lecture through OHT 2.15 before having students plot their scores on the profile sheet.

STUDENT ACTIVITY WORKSHEET

Activity 2.1, Part 1

Inventory of Creative Thought and Innovative Action

Purpose

To identify barriers to creative thought.

Directions

For each of the statements in this inventory, refer to the following scale and decide which number corresponds to your level of agreement with the statement; then write that number in the blank to the left of the statement.

Strongly Agree 1	Agree 2	Agree Somewhat 3	Disagree Somewhat 4	Disagree 5	Strongly Disagree 6	
_____						1. I evaluate criticism to determine how it can be useful to me.
_____						2. When solving problems, I attempt to apply new concepts or methods.
_____						3. I can shift gears or change emphasis in the abstract.
_____						4. I get enthusiastic about problems outside my specialized area of concentration.
_____						5. I always give a problem my best effort, even if it seems trivial or fails to arouse enthusiasm.
_____						6. I set aside periods of time without interruptions.
_____						7. It is not difficult for me to have my ideas criticized.
_____						8. In the past, I have taken calculated risks and I would do so again.
_____						9. I dream, daydream, and fantasize easily.
_____						10. I know how to simplify and organize my observations.
_____						11. Occasionally, I try a so-called "unworkable" answer and hope that it will prove to be workable.
_____						12. I can and do consistently guard my personal periods of privacy.
_____						13. I feel at ease with colleagues even when my ideas or plans meet with public criticism or rejection.
_____						14. I frequently read opinions contrary to my own to learn what the opposition is thinking.
_____						15. I translate symbols into concrete ideas or action steps.

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STUDENT ACTIVITY WORKSHEET

Activity 2.1, Part 1 (cont'd)

Scoring Sheet

Directions

Transfer your inventory responses to the appropriate blanks provided below. Then add the numbers in each column, and record the total in the blanks provided.

A	B	C	D	E	F
1. _____	2. _____	3. _____	4. _____	5. _____	6. _____
7. _____	8. _____	9. _____	10. _____	11. _____	12. _____
13. _____	14. _____	15. _____	16. _____	17. _____	18. _____
19. _____	20. _____	21. _____	22. _____	23. _____	24. _____
25. _____	26. _____	27. _____	28. _____	29. _____	30. _____
31. _____	32. _____	33. _____	34. _____	35. _____	36. _____
_____	_____	_____	_____	_____	_____
Column Totals					

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STUDENT ACTIVITY WORKSHEET

STOP

Go no further until your instructor tells you.

15 min.
Lecture

**III. THINKING AND PROBLEM-SOLVING (cont'd)
(15 min.)**

OHT 2.9

B. Barriers to creative thought.

OHT 2.10

1. Perceptual blocks--the way a person misreads a problem, or fails to view it correctly.
 - a. Failure to use all senses in observing.
 - b. Failure to investigate the obvious.
 - c. Making too quick a decision without getting all the information.
 - d. Inability to define terms.
 - e. Failure to see cause and effect.
 - f. Paradigm paralysis.

Remind students of the concept of paradigm paralysis, if they have taken Module 1.

OHT 2.11

2. Cultural blocks--the tendency of a person to conform or act according to expectation.
 - a. Desire to conform to pattern.
 - b. Pressured by competition or pressured to cooperate.
 - c. Belief that fantasy is a waste of time.
 - d. Driven to be practical or economical above all else.
 - e. Personal values.

Point out that the 24-hour, high-risk nature of our fire service business creates a "family style" conformity which disapproves of those who "make waves" or who propose new ways of doing things. The pressure to conform is tremendous!

OHT 2.12

3. Emotional blocks--the way a person perceives his/her feelings and self-confidence.
 - a. Fear of making a mistake.
 - b. Distrust of others.
 - c. Grabbing the first idea.
 - d. Fear of rejection.
 - e. Avoidance of conflict.

OHT 2.13

4. Environmental blocks--physical elements and distractions that hinder creativity.
 - a. Distracting noise and/or temperature.
 - b. Lack of space or environment to think and explore.
 - c. Lack of time to think.
 - d. Rigid supervision--lack of privacy.

10 min.
Individual
Activity 2.1, Part 2

Activity 2.1, Part 2

Inventory of Creative Thought and Innovative Action

Purpose

To identify barriers to creative thought.

Directions to Students

SM p. 2-23

1. Direct students to plot their scores graphically on the Profile Sheet to determine the barriers that block their creativity.
2. Provide feedback to students about their grades.
 - a. Scores for each category will range from 6 to 36.
 - b. Any category with a score above 18 indicates that students should take action to eliminate barriers to their creative thinking.
3. Barrier categories relate to the following blocks to creativity discussed earlier.
 - a. Perceptual blocks--categories C, D.
 - b. Emotional blocks--categories A, E.
 - c. Cultural blocks--category B.
 - d. Environmental blocks--category F.
4. Refer students to the summaries in the Student Manual for personal guidance to assist them in eliminating barriers.

OHT 2.14

SM p. 2-25

Summary

IG p. 2-37

Emphasize that the Profile Sheet offers constructive direction for students' professional development--not an indication of their weaknesses.

Remind students that as managers they have the responsibility to encourage creativity among their subordinates, peers, and managers as well as to understand what inhibits their own creativity.

Emphasize that creativity lies dormant within all of us. It merely requires use and practice.

STUDENT ACTIVITY WORKSHEET

Activity 2.1, Part 2

Inventory of Creative Thought and Innovative Action

Purpose

To identify barriers to creative thought.

Directions

1. Read the directions for completing the Profile Sheet.
2. After you have read the directions, complete the Profile Sheet individually.

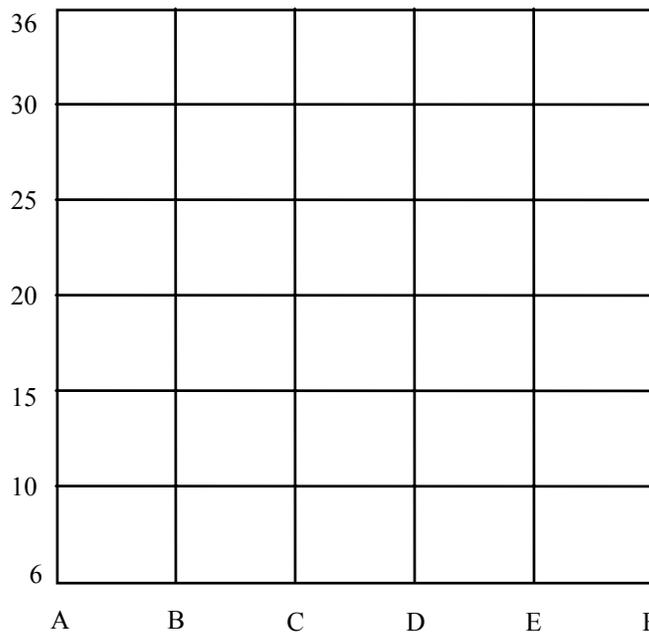
STUDENT ACTIVITY WORKSHEET

Activity 2.1, Part 2 (cont'd)

Profile Sheet

Directions

Plot the scores from your scoring sheet onto the following graph. The vertical axis, which represents your numbered scores, ranges from 6 to 36. The horizontal axis, which represents the columns on your scoring sheet, ranges from A to F. The key at the bottom of this page identifies the barriers in each column. Connect the points you have plotted with a line. The high points represent your barriers to creativity.



Key to Barriers

- A = Barriers related to concept of self: self-esteem, self-confidence, handling of rejection, and ability to confront differing opinions.
- B = Barriers related to need for conformity: inclination to break away from pattern, to take risks, to express one's ideas, to scrutinize traditional views, and to challenge standard practices.
- C = Barriers related to ability to abstract: tendency to use the unconscious mind, to view things in holistic or visual ways, and to rely on intuition.
- D = Barriers related to ability to use systematic analysis: tendency to use the conscious mind, to apply logic, to think sequentially, to organize ideas, and to rely on facts or data.
- E = Barriers related to task achievement: work patterns, persistence, attitudes toward others, and resourcefulness.
- F = Barriers related to physical environment: variables associated with physical surroundings, distractions, personal space, and privacy.

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10 min.
Lecture
OHT 2.15

IV. PROBLEM-SOLVING STYLES WITHIN A PROBLEM-SOLVING MODEL (10 min.)

Introduce this section by pointing out that scientists recognize two distinct problem-solving processes--divergent thinking and convergent thinking. (Karl Albrecht)

OHT 2.16

A. Divergent thinking (Lateral--de Bono).

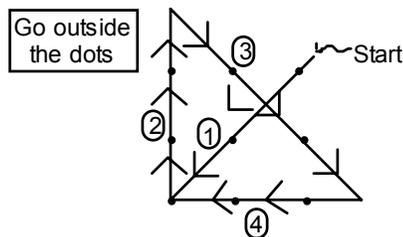
1. States the problem in various forms.
2. Expands the picture of the problem.
3. Looks at the problem from different points of view.
4. Questions and requestions basic facts and opinions.
5. Expansive--creates a bigger picture.

Ask how many students are familiar with the nine-dots exercise.

Ask those who know the answer to remain quiet.

The object is to connect the nine dots with four straight lines without losing contact with the paper.

Demonstrate:



OHT 2.17

B. Convergent thinking (Sequential--de Bono).

1. Opposite of divergent thinking.
2. Zeroes in on key factors.
3. Works toward closure.
4. Eliminates useless options.
5. Narrows problem to manageable size.
6. Reductive--creates a smaller picture.

OHT 2.18

C. Overcoming problem-solving paradigms.

1. Solving the problem requires divergent thinking--going outside the dots to solve the problem.
2. The paradigm we impose on ourselves is that the solution must be found inside the dots.
3. Most of us have been raised and educated to think convergently. Being systematic and analytical is valued while being "creatively weird" is not.
4. Yet, both divergent and convergent thinking are required for effective problem-solving in the modern age.

D. Thinking and the problem-solving model.

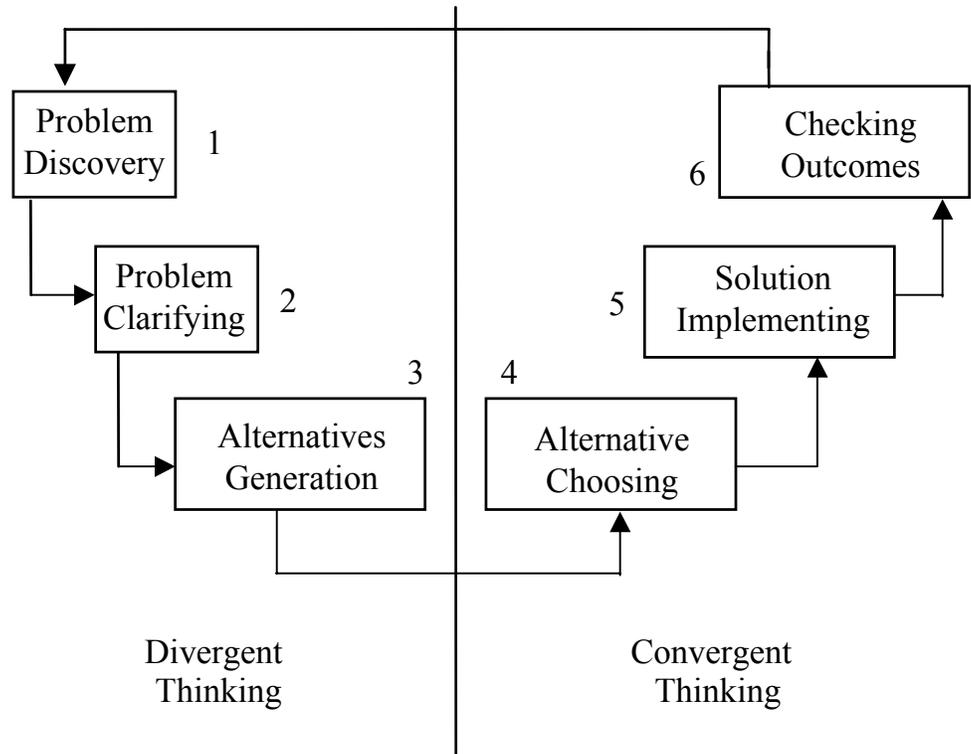


Figure 2-1
Thinking and The Problem-Solving Model

(Adapted from Albrecht, 1980)

SM p. 2-8
OHT 2.19

Show the problem-solving model on the overhead (and Figure 2-1 above and in the Student Manual) and illustrate the uses of divergent and convergent thinking within that process.

Trace the diagram to show where divergent and convergent thinking styles complement the problem-solving model. Emphasize and differentiate the expansion (divergent thinking) phase and the closure (convergent thinking) phase.

1. Problem discovery.
 - a. You find the problem.
 - b. The problem finds you.

2. Problem clarifying.
 - a. May be a conscious choice or reaction.
 - b. Various points of view.
 - c. Expand perspective.
3. Generation of alternatives: major focus of this module.
 - a. Divergent idea production.
 - b. Use of idea production techniques.
 - c. Examples of techniques.
 - Brainstorming.
 - Nominal Group Technique.
4. Alternative choosing.
 - a. Begins convergent thinking phase.
 - b. Choose among known options.
 - c. Dependent on a good option-finding step.
5. Implementing.
 - a. Putting decision into effect.
 - b. Involves clear definition of action.
 - c. Involves specific measure of action accomplishment.
6. Checking outcomes.
 - a. Determining the extent to which you solved the problem.
 - b. Evaluation--usually overlooked.

OHT 2.20

Emphasize that many people believe that deciding or taking action is the end of the problem-solving process. The problem is **not** solved until the state of affairs you wanted to change actually **is** different.

E. Paradigms versus divergent thinking.

Ensure that students know what a paradigm is, especially if they have not completed Module 1. If they need the definition, use the following:

Ask students what a paradigm is.

Answer: The way that you view something. The boundaries within which you decide or limit your thoughts.

Ask students to close their eyes and visualize a chair.

The students likely will visualize something with a seat, a back, four legs, and perhaps arms.

Ask if anyone visualized a beanbag chair.

They likely did not because the paradigm of a chair, for most of us, is that described above.

OHT 2.21

1. Divergent thinking is hindered by paradigms.
 - a. We tend to "blind" ourselves to creative ideas.
 - b. Creative options do not evolve easily.

OHT 2.22

2. Shifting paradigms.
 - a. Assist expansive thinking.
 - b. Stimulate many ideas.
 - c. Facilitate the process away from sequential thinking.

30 min.
Individual/
Small Group
Activity 2.2

Activity 2.2

Divergent Thinking and Problem-Solving

Purpose

To challenge our paradigms, and to illustrate the need to force ourselves past the paradigms to think creatively.

Directions to Students

1. Instruct the students to look at the three geometric shapes shown in the Student Manual.
2. Individually, the students should list as many descriptions of the shape as they can think of--be creative.

The shapes form an obvious paradigm, but the activity requires the students to think of creative ways to describe the shape.

In doing so, students are forced to look at the shape from different perspectives and, surprisingly, to see the form in a new way.

Instructors may need to assist individual students who have a hard time getting started.

SM p. 2-27

IG p. 2-53

3. A list of possible responses is given for each geometric shape. These responses can be found on the following Student Activity Worksheet.
4. Allow 10 minutes for individual work.

5. Then divide the class into groups of four to seven students.
6. Allow groups to develop combined lists and to illustrate to one another their individual descriptions and come up with any additional descriptions as a group.
7. Each group should select a group spokesperson to present its list.
8. Allow 15 minutes for group work.
9. Allow each group to report its list. After the first group reports, instruct subsequent groups to offer only additional options, rather than repeating a previous option.

Summary

Point out some of the most creative descriptions offered by the groups. While the shapes have obvious paradigm solutions, other solutions were discovered. Divergent thinking is not easy, yet it generates constructive, interesting alternatives when employed. Ask if students found it easier to use divergent thinking when they were in small groups.

Point out that divergent thinking is critical for modern problem-solving. The rapidly changing work environment (employees, public demands, legal issues, technology) requires that we think creatively if we are to compete successfully within modern society.

STUDENT ACTIVITY WORKSHEET

Activity 2.2

Divergent Thinking and Problem-Solving

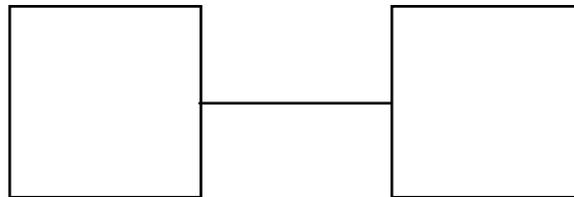
Purpose

To challenge our paradigms, and to illustrate the need to force ourselves past the paradigms to think creatively.

Individual Directions: For each object shown below, individually list as many ways to describe the figure as you can think of. Be creative.

Group Directions: In small groups assigned by your instructor, discuss individual findings, then combine them into a group list. If possible, discover more descriptions for the objects. Select a group spokesperson to present your list to the class.

Object 1

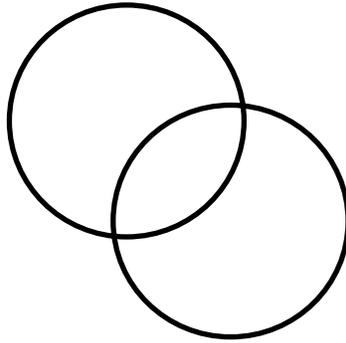


Suggested responses:

- *Two squares connected by a single line.*
- *Tops of two towers connected by a utility wire.*
- *Two squares overlying a single line.*
- *A line with a square on each end.*
- *A pair of frames for eyeglasses.*
- *Barbells.*
- *Speakers and wire.*
- *Nine straight lines.*
- *Double fly swatter.*

STUDENT ACTIVITY WORKSHEET

Object 2



Suggested responses:

- *Two circles overlapping.*
- *An ellipse bordered by two partial circles.*
- *A prehistoric figure 8.*
- *Figure 8 rolling downhill.*
- *Partial eclipse.*
- *25 percent agreement.*
- *Cells splitting.*
- *2/5 Olympic rings.*
- *Transparent cylinder.*

Object 3



Suggested responses:

- *New "Hooters" symbol.*
- *An uppercase letter "H."*
- *A mouse-maze nightmare.*
- *Long view of two wheels and axle.*
- *Gear shift pattern.*
- *Underside of a tank.*
- *I-beam.*
- *Rear view of dragster.*
- *Road sign for hospital.*
- *Twin buildings with skyway.*

Adapted from: *Lateral Thinking* by Edward de Bono, 1970.

30 min.
Lecture/
Discussion
OHT 2.23

**V. "KAIZEN"--CONTINUOUS IMPROVEMENT
(20 min.)**

OHT 2.24

A. Modern service advantage is gained through planning. (McNair, 1992)

1. As defined by the customer (citizen).
2. As defined by the community.

OHT 2.25

B. Today, effective planning means continuous improvement.

C. "Kaizen" is the never-ending quest to be just a little bit better, every day, in every activity.

1. Refers to a commitment to constant improvement.
2. Has become a culturally engrained principle in Japanese business.
3. Kaizen came from a Japanese philosophy that our way of life (work, social, home) deserves to be constantly improved.

OHT 2.26

D. Maintaining the *status quo* means

1. You're not keeping up with the changing world.
2. Society and its service needs are passing you by.
3. A loss of position as you serve the community, which could be fatal to your interests.

OHT 2.27

E. Three groups have responsibility.

1. Employees.

2. Managers.
3. Mid-managers.

In 1979, Japan had adopted and was following a zero-defects policy in its automobile production. General Motors, at the same time, was accepting up to 13 defects per car, relying on dealers to correct the problems. U.S. auto manufacturers suffered tremendous hardships by following such policies.

Ask students if the traditional fire service could face a similar fate.

Answer: You bet! There are competitors out there that will deliver fire services in a flash, if they find any vacuum and see that they can do it economically.

OHT 2.28

- F. Employee's role in Kaizen.
1. To deliver value-added service.
 2. To read customers' needs.
 3. To give citizens more than they expect--value added.

Emphasize that the concept of Kaizen is really the adoption of an attitude about quality of service and level of competence--a commitment to being the best--then better--at our individual level of influence.

For example: can you assure that you and your personnel can operate your equipment flawlessly? Would you bet your paycheck on it? Would you bet your life on it?

Answer: Probably not.

I think you will agree that we have some work to do to be really good at what we do.

Flipchart

Ask students how they think management must change in order to allow Kaizen to work. Use a flipchart to record answers.

Ensure the following points are made.

OHT 2.29

G. Management's role in Kaizen.

1. To allow service-level employees to alter and improve services.
2. To become facilitators of the process rather than inhibitors of it.
3. To visualize their newly important role as pioneers.
 - a. Identifying potential value-added options.
 - b. Assisting and guiding the service level to the "gold."
 - c. Leading the service level away from canyons and sinkholes.

OHT 2.30

H. Middle management.

Flipchart

Ask students if they think middle management positions could be reinforced by Kaizen. Record answers on a flipchart.

Ensure that the following points are made.

1. There is little doubt that some mid-management staff positions are threatened.

Large departments are downsizing and rightsizing by cutting deputy and mid-level staff positions.

2. Organizations will still require middle managers to act as the webbing which holds upper and lower management together.
3. They are the pioneers.
4. If middle managers disappear
 - a. The settlers (service-level) will not venture out from the *status quo*.
 - b. Outlying hazards will not be seen until it is too late (reactionary management).
5. Middle managers skilled at facilitating continuous improvement are the "key draft choices" of the future since they act as a "link" in a chain.
 - a. Facilitating the vision of management to the service level.
 - b. Assuring the empowered service level is supplied and supported.

OHT 2.31

- I. Benefits of Kaizen.
 1. It generates process-oriented thinking.
 - a. Focuses on the way things are done as a value to the customer.
 - b. Bridges the gap between the process and the results.
 - c. Is people-oriented.
 2. It involves the whole organization in ongoing problem-solving.
 - a. Group oriented.

OHT 2.32

- b. Demands creativity.
- c. Focused toward divergent thinking.
- 3. It creates lateral networking of the organization.
 - a. Service level no longer only looks above to receive guidance and tools to deliver service.
 - b. Fire stations with different shifts may have members begin to talk with each other.
 - c. Process-orientation causes the creation of lateral dependency networks which focus on customer service.
 - d. Networking opens the lines of communication.
- 4. It creates citizen-driven, responsive service-delivery capability.
 - a. Measured by customer satisfaction.
 - b. Altered by customer expectations.
 - c. Guided by mid-level managers--focused on process.
- 5. It firmly implants the process of change in the organization.
 - a. Eliminates the *status quo* as an acceptable level of performance.
 - b. Change is a way of life.
 - c. Constant learning is expected, not the exception.

Point out that one way to instill Kaizen in our organization is called "benchmarking."

Ask students if anyone knows what benchmarking means.

Answer: It is examining the best practice, or "best-in-class."

OHT 2.33

VI. BENCHMARKING (10 min.)

A. Definition: Learning about the best practice from others.

OHT 2.34

B. How benchmarking began.

1. Xerox Corporation in 1979.
2. Japan could sell copiers more cheaply in the U.S. than Xerox could make them.
3. Xerox lost nearly 50 percent of its market share.
4. Xerox decided to imitate the best things that the Japanese did--and improve them.
5. Robert C. Camp (Xerox) is considered the founder of the idea.

OHT 2.35

C. Benchmarking is used to assist problem-solving groups in one of two ways.

1. If the problem is known, research is performed to determine how other organizations have solved the problem progressively.

Emphasize that fire departments have been borrowing from other fire departments for years. What makes benchmarking different is that it is a focused process directed at making improvements in specific areas. Fire departments also must look outside themselves, to the private sector, for ways to improve, e.g., look to service industries for methods, techniques, and analysis.

2. If the problem is not known (hidden), individual units within the organization (fire company, training section, finance section, battalion) look to their counterparts in other organizations to see if they deliver services or products more effectively and efficiently.

Point out that Xerox went outside its organization to L.L. Bean to study the way the company shipped thousands of items by the next day. Xerox discovered how to improve inventory control and more rapidly ship repair parts.

3. This is particularly important if a competitor (private fire service) organization can be examined.
4. If the solution is innovative, the solution is considered a "benchmark" approach.
5. The department or organization adopts the innovation and an attempt is made to incorporate the "benchmark" into the organization--thus, improvement.

OHT 2.36

- D. Recent fire service benchmarks.
 1. Use of jet engines to assist in the extinguishment of the Kuwait oil well fires.

2. Use of digital technology to transmit information to the emergency scene via fax, computer, etc.
3. Redesign of apparatus to enlarge crew cabs-- rear-mount engines.
4. Use of assessment centers--promotion, hiring.
5. In-context training.

Ask the class for other example of ideas and problem solutions which have been recognized as progressive among fire departments.

20 min.
Small Group
Activity 2.3

Activity 2.3

Benchmarking the Classroom

Purpose

To raise a problem to the class, and to allow other students to provide a "better practice" example as a possible solution.

Directions to Students

SM p. 2-29

1. Refer students to the Activity Worksheet in the Student Manual.
2. Read the directions aloud as students follow.
3. Allow students 15 minutes to discuss their problems and to identify the benefits of benchmarking.
4. Ask randomly selected students to share their answers and to explain how they might improve the process.
5. Ask other students to freely suggest a better practice (benchmark) example for the problem or process.
6. Facilitate discussion about the specific examples and the benefits of benchmarking as long as time will allow and as long as students are responding.

Summary

The Kaizen and benchmarking processes are not difficult. They merely require some thought, some time, and some perseverance.

STUDENT ACTIVITY WORKSHEET

Activity 2.3

Benchmarking the Classroom

Purpose

To raise a problem to the class, and to allow other students to provide a "better practice" example as a possible solution.

Directions

1. Think of a problem facing you or your department. List it below.
2. Exchange problems with other members of your group. If you can suggest detailed help with a problem, make arrangements to follow up after class.
3. With your group, discuss and list up to six benefits of benchmarking to you and your organization.
4. Be ready to share with the class your ideas about the benefits of benchmarking and suggestions to improve on other students' ideas, particularly if you can suggest a "best practice" example (benchmarking).

Problem Area _____

Suggested Improvement(s): _____

Benefits of Benchmarking: _____

15 min.
Lecture/
Discussion

OHT 2.37

VI. BENCHMARKING (cont'd) (10 min.)

E. Benefits of benchmarking. (ASTD, 1992)

1. Clarifies customer needs.
 - a. If another organization is doing it, then the customer probably wants it.
 - b. Best practices would not exist if they were not preferred by users.

Flipchart

Ask students if any department represented here initiated a program simply because it existed elsewhere and worked there.

Answer: free smoke detectors, home inspections, open house programs, etc.

2. Identifies relevant goals.
 - a. Proven practice means we ought to be doing it.
 - b. Assures that such goals are realistic and attainable.
3. Identifies accurate measures of performance.
 - a. Level of service, effectiveness, and efficiency are shown--before initiating the practice.
 - b. The benchmark becomes the starting point for further improvement.

Ask students if anyone can give an example of an idea their organization "borrowed" that was made better.

4. Creates competitive gain.
 - a. By challenging the *status quo* way of operating.
 - b. In private sector, the leading companies generate new products up to 2.5 times faster than the industry average.

Ask students what it could mean for a community if a group of fire companies could operate and achieve results at 2.5 times the past average.

Answer: lives and property saved and tremendous appreciation from the community--saved jobs!!!

OHT 2.38

5. Acceptance more easily gained.
 - a. The risk of implementation is minimized--it already has worked elsewhere.
 - b. Implementation likely even if more costly--because it's proven.
6. Benchmarking ensures continuous improvement.
 - a. By finding solutions to visible programs.
 - b. By improving, through best practice, that which you already do well.

OHT 2.39

VII. SUMMARY (5 min.)

- A. Modern problems require creative thinking.
 1. To find missing information.

OHT 2.40

2. To rearrange data to form a new approach.
 3. To take that which is satisfactory and make it better.
-
- B. Internal and external barriers inhibit thinking.
 - C. Personal awareness can overcome most barriers.
 - D. Kaizen ensures that continuous improvement can become the norm in organizations.
 - E. Benchmarking--adopting the best practice--ensures continuous improvement.
 - F. Organizational and personal efforts are required to aid in allowing creative possibilities.

ANNOTATED REFERENCE LIST

BOOKS

Albrecht, Karl G. *Brain Power: Learn to Improve Your Thinking Skills*. New York: Prentice-Hall, 1980.

This book is easy to read and contains delightful insights into the problems arising from our inability to think creatively. Dr. Albrecht breaks a complexity of subject areas into small, quickly read segments, all of which are filled with depth and illustration. The book defines how the brain works and gives practical approaches to logical thinking and mental flexibility. A companion video, "Brain Power," brings the book's principles to the screen.

de Bono, Edward. *Lateral Thinking*. London: Penguin Books, 1970.

This book, although not recent, still contains the best and earliest writing regarding our approaches to thinking. The book is written for teachers to use in the classroom. It is filled with examples and guidelines for stimulating the lateral thinking processes which are so needed for creative problem-solving.

Deming, W. Edwards. *The New Economics for Industry, Government, Education*. Cambridge, MA: Massachusetts Institute of Technology Center for Advanced Engineering Study, 1993.

This is the last book written by the father of the modern quality movement before his death. In it, Dr. Deming describes his system of profound knowledge and the importance that variation plays in production and service delivery. His fascinating demonstration of the "red beads exercise" is described as he explains the new approaches which management must take to be successful in both the public and private sectors, both now and in the future.

McNair, C.J., and Kathleen H.J. Leibfried. *Benchmarking: A Tool for Continuous Improvement*. Essex Junction, VT: Oliver Wight Publications, Inc., 1992.

This book is part of the Coopers and Lybrand Performance Solutions Series. It thoroughly explains the process of benchmarking, its origins, and the possibilities that are presented by its use. The text is filled with actual examples where benchmarking has, and is, being used successfully. The book has a chapter on implementing the benchmarking process as defined by its founder, Robert Camp.

PERIODICALS

American Society for Training and Development (ASTD). "Discovering and Developing Creativity." *Info-Line*, January 1989.

This issue provides an overview to the creative thinking process and contains a number of classroom exercises that can be used to stimulate creative thought. The issue contains an excellent up-to-date bibliography.

American Society for Training and Development (ASTD). "Understanding Benchmarking: The Search for Best Practice." *Info-Line*, July 1992.

This issue of *Info-Line* provides the reader with a concise overview of benchmarking and founder Robert Camp's five-step method of implementation. The issue contains an excellent up-to-date bibliography.

VIDEOS AND FILMS

"Idea Power." (15 minutes, with accompanying workbook.) Northbrook, IL: MTI Film & Video.

This video is based on the work of Karl Albrecht in his book *Brain Power*. It is a humorous summary of some of the major principles in the book, providing a good visual companion to the subject matter.

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VIDEOS AND FILMS

"Brain Power." (12 minutes, with accompanying workbook; based
on the book by Karl G. Albrecht.) Northbrook, IL: MTI
Film & Video.

MODULE 3: JUSTIFYING DECISIONS

TERMINAL OBJECTIVE

The students will be able to quantify problems and solutions, and use the information to justify a recommendation.

ENABLING OBJECTIVES

The students will:

- 1. Explain the relationship among a department's mission, goal, impact objectives, and program objectives.*
 - 2. State problems in specific, quantifiable terms of their impact on service levels to the community.*
 - 3. Use a cost-benefit analysis to make a rational, fact-based justification for choosing among alternatives.*
 - 4. Describe the use of impact objectives in the evaluation function.*
-

POINTS FOR THE INSTRUCTOR

The focus of this module is the shift in perception for the student from a typically subjective, activity-oriented approach to a results-oriented analytical method of problem-solving. Place the emphasis on teaching the student to see beyond the obvious immediate process of determining a solution which will satisfy the problem, to seeing the larger issues of planning and managing for the optimal results.

The two primary tools taught in this module, management by impact objectives, and cost-benefit analysis, provide the foundation for making this transition. These tools support and reinforce the philosophical perspective of proactive and accountable management. But this also represents a dramatic shift in the culture, the perceptual framework of most managers in the fire service. Many students will find the concepts challenging and in conflict with their experience and value system. This module must be taught with patience and attention to detailed presentation of the material. It will require an increased presence of the instructor in the group exercises to reach the majority of persons in the class. It is important to read the Student Manual in addition to the teaching outline to understand the material fully.

METHODOLOGY

This module uses lecture, discussion, and small group activities.

(Total Time: 3 hr., 20 min.)

25 min.	Lecture/Discussion Objectives	IG 3-5
	Quantifying the Decisionmaking Process	IG 3-7
25 min.	Small Group Activity 3.1 Writing Impact Objectives	IG 3-29
40 min.	Lecture Quantifying the Decisionmaking Process (cont'd)	IG 3-35
	Program Objectives	IG 3-35
	Integrity of Information	IG 3-39
	Evaluation and Empowerment	IG 3-41
35 min.	Small Group Activity 3.2 Writing Program Objectives	IG 3-45
45 min.	Lecture/Discussion Evaluation and Empowerment (cont'd)	IG 3-49
	Cost-Benefit Analysis	IG 3-49
	Cost-Benefit Analysis for Impact Objectives	IG 3-59
25 min.	Small Group Activity 3.3 Selecting Data to Support Decisions in the Fire Service	IG 3-63
5 min.	Lecture Summary	IG 3-67
	Annotated Bibliography	IG 3-69

AUDIOVISUAL

OHTs 3.1 to 3.56

Video: "Justifying Decisions" (optional)

INSTRUCTOR PREPARATION

Review the course materials. In preparation for your lecture, review videotape 3, "Justifying Decisions," or use the tape to deliver the lecture.

NATIONAL STANDARD

The following sections of NFPA 1021 (1992) are addressed in whole or in part in this module: 4-4.1, 4-6.1, 4-10, 5-5.7, 5-6.3.

OHT 3.1
25 min.
Lecture/
Discussion

I. OBJECTIVES (5 min.)

OHT 3.2

A. Terminal Objective.

The students will be able to quantify problems and solutions, and use the information to justify a recommendation.

OHT 3.3

B. Enabling Objectives.

The students will:

1. Explain the relationship among a department's mission, goal, impact objectives, and program objectives.
2. State problems in specific, quantifiable terms of their impact on service levels to the community.
3. Use a cost-benefit analysis to make a rational, fact-based justification for choosing among alternatives.
4. Describe the use of impact objectives in the evaluation function.

If this module is being taught in sequence with the two previous modules, tell students that the skills in this module support the analytical and decisionmaking processes used in the previous modules. Measuring the results of those decisions will provide the basis for the evaluation and justification of the decisions and recommendations on which the previous materials focus.

**II. QUANTIFYING THE DECISIONMAKING PROCESS
(20 min.)**

A. Differences between activities and outputs.

OHT 3.4

1. Historically the fire service has evaluated itself on things over which it had absolute control--its activities.

a. Number of hours it trained.

b. Number of fire inspections it performed.

c. Number of EMTs it certified.

OHT 3.5

2. The fire service rarely looked at the results produced by those activities.

a. Amount of fire loss that occurred.

b. Number of heart attack victims saved.

c. Number of fires that occurred.

3. The key to making the right decisions, and being able to justify those decisions, is knowing what outcomes (results) are important.

4. The best method for categorizing and managing the outputs is to use a system for formalizing and tracking the results. The results are impact objectives.

5. Impact objectives are crucial to the fire service, both to the firefighters and to the community. They help to focus on the outcome, not the activity, and to separate the means from the end.

6. To understand impact objectives we must see them as part of a larger system.

OHT 3.6

7. This system starts with the mission statement.

B. Mission statement.

1. The mission statement describes the role of the department in the community and the specific functions or tasks it performs to achieve that mission.

2. The mission statement defines the areas in which the department will formulate goals.

3. Example.

OHT 3.7
SM p. 3-3

Read the following mission statement:

To protect the community through fire education, prevention, suppression, and investigation through the optimal use of resources.

Ask how many departments represented have a written mission statement. For those who raise their hands, ask how many think they could summarize the mission statement in their own words. Discuss what makes a mission statement a living document, influencing what happens in a department each day.

OHT 3.8

C. Goals.

1. Goals are the next link in the chain toward the impact objective.

2. A department writes goal statements to define how it will accomplish the mission, and to establish the priorities to reach the mission.

Stress the emphasis on goals describing results, not activities. Goals address the outcomes, not the process of achievement. This is important because you will be asking them for examples of goals in a few minutes.

OHT 3.9

3. Goals are the general statements of department intent. They address results, not activities and are used to:
 - a. Establish priorities.
 - b. Force the department to make clear choices.
 - c. Focus resources on the critical areas of need.
4. Goals are set annually to define priorities for the year.

OHT 3.10

5. Limit goal statements to three verbs to define those priorities.
 - a. Reduce.
 - b. Increase.
 - c. Maintain.
6. Goal setting is used to sort these areas into categories as an intermediate step.
7. Goals deal only with impact areas.

Point out that goals cannot be used directly to manage. They are only an intermediary step in a process of planning and managing. They are important because they allow departments to sort these areas into piles either to be worked on (reduce or increase), or to be set aside for that particular year (maintain).

Emphasize that not everything can be improved each year, because resources are always limited. Managers must make tough choices, and goal setting is a useful tool in making decisions.

8. Goals are the second step of the strategic model.

Ask students for additional examples of goals which would support the mission statement on the overhead. The most common error is to use examples of activities as goals rather than as results. Use this opportunity to reinforce the key points of impact areas and goal statements.

OHT 3.11
SM p. 3-5

Mission

To protect the community through fire education, prevention, suppression, and investigation through the optimal use of resources.

Goal

To reduce fire loss.

9. Once goals are in place, it is possible to construct the impact objectives.
- D. Defining objectives in general.
1. There is confusion between objectives and goals.
 2. The words are used interchangeably, but they are very different.

Ask for a show of hands for students who believe that objectives and goals are the same thing.

3. There are many types of objectives.

Ask students for examples of objectives with which they are most familiar. The most common answer should be terminal and enabling objectives from educational methodology.

Ask them how they use these objectives.

They should respond that those objectives define student and instructor expectations. Make the point that while management objectives will have different names and a different format, they will have the same general purpose, to define expectations.

OHT 3.12

4. The objectives we will discuss are management objectives.

5. The two types are

- a. Impact objectives.

- b. Program objectives.

OHT 3.13

6. All objectives share at least three characteristics.

- a. Describable.

- b. Deadlineable.

- c. Measurable.

Emphasize these three characteristics by using the initials to make a catch phrase: D-D-M. It is important to stress this because they will be writing objectives soon and they need to remember these three conditions must be met. For the fire instructors in the class remind them this is very similar to the ABCD's approach to writing learning objectives.

OHT 3.14

7. Describable.

Clear statement of exactly what is to be achieved in terms that everyone in the organization can understand.

OHT 3.15

8. Deadlineable.

a. It is always best to use a specific end date.

b. Avoid ambiguous statements.

- "Within one year."

- "Next fiscal year."

9. Measurable.

a. A specific criterion for determining if the objective has been accomplished.

OHT 3.16

b. This is normally a specific number.

- 100 fires.

- 20-percent reduction in fire loss.

Make the point to the students here that exact numbers are the most significant difference between goals and objectives. Use our earlier example of the goal "to reduce fire loss." Until we quantify it in an objective by saying "to reduce fire loss by ten percent" it has no real meaning.

Ask the students, "If we reduced the fire loss by \$1 compared to the previous year, we would meet the literal sense of the goal, but would we meet the **intent** of the goal?" No, which is why we need a specific number when we are using the phrases "to reduce" or "to increase." They give the precise meaning necessary to use objectives as management tools.

- c. Some objectives are either accomplished or they are not.
 - Pass a new sprinkler ordinance.
 - Meet all NFPA 1500 standards.

10. Examples of good objectives.

- a. To reduce fire losses from July 1, 19-- through June 30, 19--, by 10 percent.
- b. To increase the survival rate for heart attack victims by 25 percent over the period January, 19-- through December, 19--.

Recognize that this ends the general discussion of objectives and marks the return to the central focus of the module, the results-oriented philosophy. Make sure that the students understand that you are shifting from the general discussion of objectives to impact objectives in particular. This discussion on impact objectives is central to this unit.

OHT 3.17

- E. Impact objectives.
 - 1. The objectives that support and carry out the mission of the department.
 - 2. The bottom line of the fire department.
 - 3. The quantitative measures that have the most impact on the community.
 - 4. The results that the community cares most about.

Point out to the students that because impact objectives derive from goals, they follow the same focus as goals on the impact areas. They take the goal statement to the next level of detail in the impact area by spelling out the quantifiable measurement and timeframe for accomplishment.

It is not necessary to review the impact areas at length, but make a clear reference to them.

OHT 3.18
SM p. 3-7

F. Impact objectives must be written in ten impact areas.

1. Deaths (fire and EMS).
2. Injuries (fire and EMS).
3. Number of fires.
4. Number of EMS calls.
5. Dollar amount of fire losses.
6. Dollar amount of injury/illness loss.
7. Dollar cost of providing services.
8. Level of fire risk in the community.
9. Level of injury risk in the community due to accidents or illness.
10. Level of risk to critical economic or historical occupancies in the community.

OHT 3.19

OHT 3.20

G. Impact objectives do two things.

1. Identify the critical results on which to concentrate.
2. Quantify results to make people accountable.

OHT 3.21

- H. Example of an impact objective.
"To reduce fire loss by 8 to 12 percent by June 30, 19--."
- I. Return to the strategic model which started with the mission statement to see how the impact objective derives from the goal.

OHT 3.22
SM p. 3-8

**Relationship Among Mission, Goals,
and Impact Objectives**

Mission

To protect the community through fire education, prevention, suppression, and investigation through the optimal use of resources.

Goal

To reduce fire loss.

Impact Objectives

To reduce fire loss by 8 to 12 percent by June 30, 1998.

To reduce fire loss in single-family residences by 7 to 10 percent by June 30, 1998.

To reduce fire loss in the three highest-loss occupancy classes by 10 to 15 percent by June 30, 1998.

To reduce fire loss in multifamily dwellings by 5 to 10 percent by December 31, 1998.

Point out that impact objectives provide the tools to accomplish Kaizen, because without the ability to measure and track results there can be no Kaizen.

Ask the class as a whole if they understand the process so far. Ask for examples of other impact objectives which could be written for the goal of reducing fire losses.

- OHT 3.23
- J. In setting impact objectives, attempt to be as accurate and factual as possible.
1. Base the objective on data.
 - a. Historical data, when it is relative.
 - b. Prototype programs/data.
 - c. Use experience to make adjustments.
 2. Use these measurable standards to monitor progress.
 3. This monitoring process leads the manager to:
 - a. Modify the activities and programs.
 - b. Modify the objectives that prove unrealistic.
- OHT 3.24
4. Modifying objectives is an important part of the process.
 5. Adjusting objectives is critical to maintain the credibility of objectives.
- OHT 3.25
6. The process of setting objectives.
 - a. Incremental.
 - b. Cyclical.
 - c. Continuous.

Use the example of fire service training in the following section. Departments keep records on how many hours they trained, not on what was learned, or what competencies were displayed.

OHT 3.26

- K. Many departments ignore impact objectives. They:
1. Do not recognize the difference between impact and program objectives.
 2. Confuse activities with results.
 3. Do not want to be held accountable.

25 min.
Small Group
Activity 3.1

Activity 3.1

Writing Impact Objectives

Purpose

To write clear and accurate impact objectives.

Directions to Students

SM p. 3-21

1. Divide students into groups of five to seven each.
2. Instruct groups to write three different impact objectives that represent a typical range of services provided by the departments represented in each group.

The students are prone to errors in the first impact objective they write, so you should check each group's first objective before they move on. It is also advisable to check all the objectives for errors before they present them to the class.

This is a great opportunity to do small group instruction, and for many students this is the point at which they finally understand impact objectives in a tangible way.

SM p. 3-7

Flipchart

3. Instruct the students to refer to their Student Manuals to the list of the ten areas in which impact objectives can be written.
4. Give the groups 15 minutes to develop the impact objectives and record them on a flipchart. Ask each group to select a spokesperson to present the impact objectives to the class.

5. Presentations will take 10 minutes. Work closely with the groups to check their impact objectives before they present them to the class. It is better to make corrections within the groups than in front of the class.

STUDENT ACTIVITY WORKSHEET

Activity 3.1

Writing Impact Objectives

Purpose

To write clear and accurate impact objectives.

Directions

1. Form groups as assigned by your instructor.
2. Write three different impact objectives that represent a typical range of services provided by the departments represented in each group. Ask the instructor to check your group's first objective to determine if it is correct.
3. Refer to the list of impact areas in your Student Manual (page SM 3-7). The impact objectives must be quantifiable statements about one of these ten specific areas. Also review the three criteria--described, deadlined, and measured--to make sure your impact objectives meet them.
4. Use 15 minutes to develop the impact objectives and record them on a flipchart. Select a spokesperson to present the impact objectives to the class.

40 min.
Lecture

II. QUANTIFYING THE DECISIONMAKING PROCESS (cont'd) (5 min.)

L. Summary.

1. Impact objectives focus on what is important.
2. Impact objectives provide a management tool to evaluate how well the organization performs.
3. Impact objectives provide a basis for continuous improvement.

III. PROGRAM OBJECTIVES (20 min.)

OHT 3.27

A. To meet impact objectives, a department develops various programs, such as company inspections.

OHT 3.28

B. A program objective details the number of activities to achieve the impact objectives.

OHT 3.29

C. The program objective:

1. Describes an activity.
2. Serves as evaluation criterion.
3. Is linked to a specific impact objective.

OHT 3.30

D. An example is, "Each company shall complete 100 inspections between July 1, 19--, and June 30, 19--."

E. Several program objectives may be reasonable alternatives to achieving a single desired impact objective.

1. The department evaluates and chooses from the alternative program objectives.
2. This assumes a cause-and-effect relationship between the activities and the result.

- OHT 3.31
- F. Proof of the causal relationship.
1. Is the link which traditionally has been absent in the fire service.
 2. Essential for sound, justifiable decisionmaking.
 3. Must be established by objective data, not just opinion or common sense.
- OHT 3.32
- G. If the activities (the program objectives) do not yield measurable results (the impact objectives), then stop the activity.
- H. Return to the strategic model, which started with the mission statement, to see how the program objective completes the strategic process.

SM p. 2-9
IG p. 2-55

Refer back to the discussion in Module 2 on Kaizen and ask students to explain the relationship between program objectives and continuous improvement.

SM p. 3-10

Ask students to turn to their Student Manuals so that they can see the entire strategic management model as presented here. This illustrates how the strategic process originates in the mission statement and then flows through each step into implementation.

Relationship Among Mission, Goals, and Impact and Program Objectives

Mission

To protect the community through fire education, prevention, suppression, and investigation through the optimal use of resources.

Goal

To reduce fire loss.

Impact Objectives

To reduce fire loss by 8 to 12 percent by June 30, 1998.

To reduce fire loss in single-family residences by 7 to 10 percent by June 30, 1998.

To reduce fire loss in the three highest-loss occupancy classes by 10 to 15 percent by June 30, 1998.

To reduce fire loss in multifamily dwellings by 5 to 10 percent by December 31, 1998.

Program Objectives

To install smoke detectors in 80 to 90 percent of all multifamily dwellings by June 30, 1998.

To increase inspections by 300 percent in 95 to 100 percent of all buildings in the 3 highest-loss occupancy classes by June 30, 1998.

IV. INTEGRITY OF INFORMATION (5 min.)

OHT 3.33

- A. Data used for managing must be accurate and reliable.
- B. Many departments have inaccurate records.
 - 1. Departments place little emphasis on collecting accurate information.
 - a. Fire losses are seldom verified through insurance claims paid.
 - b. Personnel are not trained or qualified to make damage estimates.

2. Departments seldom establish quality controls to verify data.
3. Little systematic sampling is done on quantitative or qualitative issues.
4. Quality control is a critical component.
5. Valuable data are available through the *National Fire Information Reporting System* (NFIRS).
 - a. Department data manager.
 - b. State data agency, usually state fire marshal's office.
 - c. United States Fire Administration (USFA).

V. EVALUATION AND EMPOWERMENT (10 min.)

- A. Fire departments seldom do a good job of evaluating their activities.
- B. Evaluation is an essential function of management.
- C. Impact objectives provide the natural benchmark for evaluation.
 1. Judge the ultimate success.
 2. Manage the entire activity and allow adjustment to be done.
- D. Evaluation should be done incrementally.
 1. Measure progress towards the impact objective periodically.
 2. Analyze shortfalls for cause and effect.
 3. Modify activities to achieve the objective.
 4. Modify the impact objective to adjust to new information.

OHT 3.34

Ask the students if using impact objectives would limit them or empower them as managers. You are liable to get both answers. Ask those who answer that they would be empowered by the objectives to explain why they feel that way.

You are trying to solicit the response that impact objectives free you to concentrate on getting results rather than doing something the way your boss wants it done, or doing activities for the sake of doing something.

OHT 3.35

- E. Impact objectives are used to empower employees and hold them accountable.
 - 1. Employees know that evaluation shifts from being driven by the supervisor to being driven by results.
 - 2. Employees can measure their own progress.
 - 3. Employees can make decisions because they have an objective criterion to guide them.
 - 4. Employees are encouraged to be creative, to be innovative.

OHT 3.36

- F. The importance of evaluating activities for results.
 - 1. Meets the fiduciary duty to the public to use resources effectively.
 - 2. Provides foundation for decisionmaking.
 - 3. Expands the knowledge base of the profession.

35 min.
Small Group
Activity 3.2

Activity 3.2

Writing Program Objectives

Purpose

To write program objectives based on the impact objectives previously developed by the group.

Directions to Students

SM p. 3-23

1. Divide the class into groups of five to seven students and send them to breakout rooms.
2. Instruct them to review the impact objectives previously developed and write two program objectives to support each of the three impact objectives their group has written.
3. Allow 20 minutes for writing the program objectives.
4. Each group should appoint a spokesperson to present its list of objectives and responses to the questions in the Student Manual to the class.
5. Allow 15 minutes for reporting.

Flipchart

STUDENT ACTIVITY WORKSHEET

Activity 3.2

Writing Program Objectives

Purpose

To write program objectives based on the impact objectives previously developed by the group.

Directions

1. Form your groups and go to breakout rooms.
2. Review the impact objectives previously developed and write two program objectives to support each of the three impact objectives your group has written.
3. Make sure that the program objectives will lead to achievement of the specific impact objective they support and that they conform to the criteria (described, deadlines, and measured). Ask your instructor to review the first program objective to make sure it is right.
4. Appoint a spokesperson to present the objectives to the class and to discuss your answers to the following questions:
 - a. How many departments in your group actually focus on the ten areas of impact objectives as a measure of departmental effectiveness? Is this the best way to manage the department?
 - b. How many departments in your group focus on the areas of program objectives as a measure of departmental effectiveness? Is this the best way to manage the department?
 - c. How many departments in your group manage without measuring specific accomplishments in either area? Is this the best way to manage the department?
 - d. How many in your group feel that their departments would benefit from integrating a focus on impact objectives into their operational management?

45 min.
Lecture/
Discussion

**V. EVALUATION AND EMPOWERMENT (cont'd)
(5 min.)**

G. Summary.

1. Impact objectives can be achieved only through program objectives.
2. Program objectives are important tools for the management and incremental improvement of those programs.

VI. COST-BENEFIT ANALYSIS (30 min.)

OHT 3.37

A. Cost-benefit analysis is the primary tool for:

1. Making a choice between alternatives.
2. Justifying that choice to the political or economic decisionmakers.

B. Cost-benefit analysis covers a wide range of specialized analytical tools.

1. Simple cost allocations.
2. Highly sophisticated multilayered analytical techniques.

Stress that the primary focus on cost benefit is to choose among alternatives. If there is only one choice, there is no point in doing a cost-benefit analysis. Also stress that the issue of cost is less important than a common denominator which allows us to compare one alternative to another (program-to-program results) in a meaningful way.

OHT 3.38

C. The defining characteristic of cost-benefit analysis.

1. The identification of a common denominator for comparison of alternatives.

2. Definition:
- Cost-benefit analysis is the comparison of alternative proposals on the basis of the cost of a comparable measure of the benefit.
- OHT 3.39 D. At its most basic level, cost-benefit analysis can be a simple cost comparison of alternative ways for producing the same activities.
- E. At its most complex level.
1. Determines a way to link cost to results rather than the activities.
2. Compares cost efficiencies of each alternative based on results.
- OHT 3.40 F. To better understand these differences.
1. Return to the framework of the impact and program objectives.
2. Start with an impact objective.
- "Reduce the annual dollar fire losses by 15 percent for the period January to December, 19--."
- OHT 3.41 3. Develop alternative programs to achieve the impact objective:
- a. Perform 1,000 additional inspections of targeted occupancies.
- b. Deliver 100 educational programs to targeted audiences.
- c. Require retrofit installation of smoke detectors in all rental occupancies.
- OHT 3.42 G. Perform cost-benefit analysis on the first alternative.
1. The end result is 1,000 inspections.

2. The common denominator is the cost per inspection.

SM p. 3-14

Ask the students to follow along in their Student Manuals so they can see the larger picture as the process unfolds. Walk them through the analysis step by step, asking individual students questions throughout the process to ensure they understand. Watch the eyes of the students carefully for signs of confusion.

- H. Evaluate the alternative of full-time inspectors working on overtime.

Explain to the students that a third potential solution for the problem of increasing inspections--hiring more inspectors--could also be analyzed. To simplify the learning process, we will compare only two alternatives. Therefore assume that the hiring of an additional full-time permanent inspector has been ruled out by the local City/County Manager.

OHTs 3.43 to 3.45

Overtime Costs For Full-Time Inspectors

1. **Calculate the total number of inspections which the inspectors can perform annually**

Hours available per year for overtime inspections	400
Average hours required per inspection	2
Field inspectors available for program	8

<u>400 hrs available annually</u> =	200 inspections annually per
2 hrs per inspection	inspector

Number of inspections that can be performed annually by all inspectors

8 inspectors x 200 inspections = 1,600 inspections

2. **Calculate the cost of performing each inspection (variable cost)**

Overtime costs per hour	\$36
Hours per inspection	<u>X 2</u>

Cost per inspection	\$72
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- I. Perform a cost-benefit analysis on using company-level inspectors.
 1. Calculate the cost per inspection.
 2. There are no direct inspection labor costs (variable costs) because they are already on duty.
 3. The only costs involved are for training (fixed costs).
 4. Calculate the number of inspections which can be done with available resources.
 5. The total costs then are divided by the number of inspections to determine the cost per inspection.

OHTs 3.46
to 3.50

SM p. 3-15

Costs for Company-Level Inspections	
1. Calculate fixed costs	
One-time certification training	\$2,400
Annual equipment costs	1,200
Annual support costs	1,200
Total fixed costs per person	\$4,800
2. Calculate number of inspections that can be done	
Hours available per year for field inspections	120
Average hours required per inspection	2
Field inspectors available for program	10
Number of inspections that can be performed annually	
<u>120 hrs available annually</u>	= 60 inspections annually per person
2 hrs per inspection	
3. Calculate the number of inspections that can be performed annually by all company inspectors	
10 inspectors x 60 inspections = 600 inspections	
4. Calculate the cost per inspection for a one-year period	
Total fixed costs per person	<u>\$4,800</u> = \$80 per inspection
Annual inspections	60
5. Calculate the cost per inspection for a two-year period	
Total fixed costs per person	<u>\$7,200</u> = \$60 per inspection
Annual inspections	120

- J. This allows a direct comparison of the incremental costs of programs.
 - 1. The programs can be compared despite differences in fixed costs compared to variable overtime costs.
 - 2. The programs can be compared under different conditions:
 - a. Training costs over one year of inspections.
 - b. Training costs over two years of inspections.

Point out that programs with larger fixed costs must be evaluated over several time scenarios, because the per-inspection cost drops with the increase in total inspections over the life of the program.

OHT 3.51
SM p. 3-17

Cost Comparison Per Inspection

Cost per inspection by full-time inspectors on overtime	\$72
Cost per inspection by field inspector in one-year program	\$80
Cost per inspection by field inspector in two-year program	\$60

- K. If the department is willing to commit to a two-year inspection program, it is more effective to use a field program.
- L. If the department is willing only to commit to a one-year inspection program, it is more effective to use full-time inspectors working on overtime.
 - 1. The maximum number of inspections available using field inspectors is 600.

OHT 3.52

2. Under a two-year program it is cheaper to use
 - a. Field inspection program for 600 inspections.
 - b. Overtime inspectors for 400 inspections.
 3. Under a one-year program, it is cheaper to use the full-time inspectors for all inspections.
- M. It is relatively easy to do cost-benefit analysis in this case because the benefits are the activities.

OHT 3.53

VII. COST-BENEFIT ANALYSIS FOR IMPACT OBJECTIVES (10 min.)

- A. The more difficult challenge comes when we do a cost-benefit analysis at the impact objective level.

Ask the students why cost-benefit analysis of alternatives at the impact objective level is more difficult.

1. Compares results which flow from the activities.
 2. Requires a more sophisticated analysis.
- B. Each program represents a different activity to produce a 15-percent reduction in fire losses.
- C. The essential question is what is the cost for each dollar of fire loss reduction in each of the three programs?
1. The cost of the result (the reduced fire loss) must be calculated.

2. This requires a much more sophisticated analysis.
 - a. There must be proof of a causal relationship.
 - b. There must be an estimate of input-to-output relationship.
3. Once we establish that linkage, it is possible to calculate each program's cost for each dollar of fire loss it will reduce.

Explain to the students that the overhead is an example of the comparisons which could be made if we had sufficient data and evidence that would support a reliable, sophisticated cost-benefit analysis. The information contained in the overhead is hypothetical to illustrate the point.

OHT 3.54
SM p. 3-19

Cost Comparison of Competing Programs	
Program	Cost per \$1,000 of Loss Reduction
Inspection program	\$90
Education program	\$55
Smoke detector program	\$48

OHT 3.55

- D. Predictions of results are far less reliable than predictions of activities which we can directly control.
- E. There is a higher degree of uncertainty in making these forecasts.

25 min.
Small Group
Activity 3.3

Activity 3.3

Selecting Data to Support Decisions in the Fire Service

Purpose

To identify a typical fire-service decision or recommendation and select data to support it.

Directions to Students

SM p. 3-25

1. Divide students into five groups.
2. Have the students select one of their impact objectives developed previously. Decide the following:
 - a. What factual data would be required to support decisions on that impact objective?
 - b. What quantitative method should be used to compare alternative solutions to meeting the objective?
 - c. What criteria should be used to make the decision?
 - d. What justification strategy will be most appropriate?

STUDENT ACTIVITY WORKSHEET

Activity 3.3

Selecting Data to Support Decisions in the Fire Service

Purpose

To identify a typical fire-service decision or recommendation and select data to support it.

Directions

1. Form groups as assigned by the instructor.
2. Work collectively for 15 minutes to select one of your impact objectives developed in this unit. Then decide the following:
 - a. What factual data would be required to support decisions on that impact objective?
 - b. What quantitative method should be used to compare alternative solutions to meeting the objective?
 - c. What criteria should be used to make the decision?
 - d. What justification strategy will be most appropriate?
3. Select a spokesperson, different from the ones in Activities 3.1 and 3.2, to present your group's answers to the class.

5 min.
Lecture
OHT 3.56

VIII. SUMMARY (5 min.)

- A. Traditionally the fire service has evaluated itself on its activities rather than on the results of those activities.
- B. The key to making the right decisions and being able to justify them is knowing what results are expected by our customers, the citizens.
- C. Impact objectives are the quantitative measures that have the most impact on the community.
 - 1. They identify the critical results on which to concentrate.
 - 2. They quantify results to make people accountable.
- D. Program objectives detail the number of activities to achieve the impact objectives.
- E. Performing a cost-benefit analysis can help you choose among alternatives and justify the decision to your supervisors and to the community.

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An absolute classic text in the field of management by the father of quality circles, and the Japanese global economic strategy of quality supremacy.

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Lave, L.B. *Risk Assessment and Management*. New York: Plenum Press, 1987.

A highly technical collection of articles on quantifying risk; however, it does have two articles on quantifying fire risk. G. Ramachandran's article "USA Management of Fire Risk" is an excellent broad overview of risk theory applied to the fire service, but some sections of it get very technical.

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_____. *Getting it to the Bottom Line: Management by Incremental Gains*. New York: The Free Press, 1987.

An excellent followup to *How to Measure Managerial Performance*, it is a briefer and less systematic book, but it is filled with outstanding insights into performance-based management.

MODULE 4: MANAGING CHANGE IN THE FIRE SERVICE ENVIRONMENT

TERMINAL OBJECTIVE

The students will be able to explain why people resist change and develop strategies for implementing change within the fire service environment.

ENABLING OBJECTIVES

The students will:

- 1. Discuss the concept of resistance to change for both people and organizations.*
 - 2. Describe strategies used for implementing change in the fire service environment.*
 - 3. Describe the importance of the manager serving as an agent for change within the organization.*
 - 4. Describe the steps to be used for monitoring changes and evaluating their results.*
-

POINTS FOR THE INSTRUCTOR

This module is intended to acquaint the student with the concept of managing change in a fire service environment. Until recently, the fire service has resisted change. Even today, changes come about slowly in many fire departments.

Fire service organizations today are facing change at an ever-increasing rate. New technology, coupled with changing economic and political structures, is forcing change faster than many organizations can cope.

After completing this module, the students should understand the natural resistance and barriers people often erect to stifle change. To deal with these barriers, the students must understand the importance of the manager as an agent of change, and be able to develop effective strategies for overcoming resistance to change.

METHODOLOGY

This module uses lecture, discussion, and individual, large, and small group activities.

(Total Time: 3 hr.)

25 min.	Lecture/Discussion Objectives	IG 4-5
	Introduction	IG 4-7
15 min.	Small Group Activity 4.1 Identifying Future Changes	IG 4-19
25 min.	Lecture/Discussion Introduction (cont'd)	IG 4-27
	Overcoming Resistance to Change	IG 4-27
10 min.	Individual Activity 4.2, Part 1 Trust-Orientation Profile	IG 4-37
20 min.	Lecture/Discussion Developing Strategies to Manage Change	IG 4-47
15 min.	Individual Activity 4.2, Part 2 Trust-Orientation Profile	IG 4-51
25 min.	Lecture/Discussion The Manager as Change Agent	IG 4-63
	Monitoring and Evaluating Change	IG 4-65
40 min.	Large Group Activity 4.3 Managing Change	IG 4-73
5 min.	Lecture Summary	IG 4-87
	Annotated Bibliography	IG 4-89

AUDIOVISUAL

OHTs 4.1 to 4.29

Video: "Managing Change in the Fire Service" (optional)

INSTRUCTOR PREPARATION

Review the course materials. In preparation for your lecture, review videotape 4, "Managing Change in the Fire Service," or use the tape to deliver the lecture.

NATIONAL STANDARDS

The following sections of NFPA 1021 (1992) are addressed in whole or in part in this module: 2-4.3, 3-2.1, 3-2.2.

OHT 4.1
25 min.
Lecture/
Discussion

I. OBJECTIVES (5 min.)

OHT 4.2

A. Terminal Objective.

The students will be able to explain why people resist change and develop strategies for implementing change within the fire service environment.

Ask students to place hands flat on the table in front of them as an introductory icebreaker. Then have students clasp their hands together with fingers intertwined. After 10 to 15 seconds, have them reverse hand positions (from right over left to left over right or vice versa). Explain that the strange feelings they are experiencing are due to change; we have asked them to shift their paradigms. Tie this into information learned during this course.

OHT 4.3

B. Enabling Objectives.

The students will:

1. Discuss the concept of resistance to change for both people and organizations.
2. Describe strategies used for implementing change in the fire service environment.
3. Describe the importance of the manager serving as an agent for change within the organization.
4. Describe the steps to be used for monitoring changes and evaluating their results.

OHT 4.4

II. INTRODUCTION (20 min.)

A. "There is nothing more difficult to take in hand, more perilous to conduct, more uncertain in its success, than to take the lead in the introduction of a new order of things."

Machiavelli, 1537

B. A mind is like a parachute; it has to be open in order to work properly.

Ask how students would define change. Have them keep their Student Manuals closed during this part of the discussion, at least until the first activity.

OHT 4.5

C. Change defined.

Change can be defined as making something different, to modify, to make distinctly different from what was.

1. Sometimes change is welcomed by the persons affected, sometimes it is resented and resisted.
2. Organizations and the people within them are having to change and transform themselves because they are facing the effects of:

OHT 4.6

- a. A changing economic structure.

Ask how this is affecting us at the state and local government levels.

- Reduced budgets.
- Propositions 13 and 2-1/2.
- Downsizing/Right-sizing.

- b. New technology developing at an ever-increasing rate.

Ask how technology is changing the way we do business.

- Computerization.
- Enhanced 911.
- Positive pressure ventilation (PPV).
- Class "A" foam.
- Improved protective clothing and breathing apparatus.
- PASS devices, etc.

- c. New demands by more knowledgeable citizens/customers.

Refer back to the discussions about continuous improvement--Kaizen--in Module 2: Finding Solutions in the Quality Environment, if students have taken that module.

- Tax reductions/limiting measures.
- Changes in form of government demanded by citizens.
- Direct involvement in community decisions.
- Increased input through the media.
- Special interest groups, etc.

- d. Increasing federal, state, and local mandates.

Ask which mandates are affecting us in the fire service environment today.

- Superfund Amendments and Reauthorization Act (SARA Title III).
- Fair Labor Standards Act (FLSA).
- Americans With Disabilities Act (ADA).
- Occupational Safety and Health Administration (OSHA) requirements.
- Environmental Protection Agency (EPA) requirements.
- Changing NFPA standards, etc.

- e. Competition and privatization within the industry.
 - Private fire and EMS services.
 - Combining fire departments through consolidation.
 - Regionalization of haz mat service.
 - Volunteer departments changing from all volunteer to part (or full) paid.

- 3. A person (or organization) who does not continue to grow and change will stagnate and eventually atrophy. Stagnation, as opposed to forward motion, has much the same effect on organizations as on people.

D. Changes in the fire service environment over the past 20 years.

Flipchart
SM p. 4-5

Ask students to brainstorm a list of changes that have occurred in the fire service over the past 20 years. Refer them to the blank worksheet in the Student Manual. Use the list below to supplement student responses. List on a flipchart.

1. Smoke detectors.
2. Protective clothing.
3. NFPA 1500.
4. 1-3/4-inch and 2-inch hose.
5. Drug testing.
6. Volunteer retention.
7. Large diameter hose.
8. Health standards.
9. EMS/First responder.
10. Job mobility.
11. Wildland/Urban interface.
12. Confined space rescue.
13. National Fire Academy (NFA).
14. Public safety departments.
15. Residential sprinklers.
16. Improved firehose.
17. Women and minorities.

18. Positive pressure ventilation (PPV).
19. Apparatus standards/costs.
20. E-911.
21. Training requirements.
22. Performance standards.
23. Physical fitness.
24. Driver qualifications/Commercial Driver's License (CDL).
25. Class "A" foam.
26. Building construction.
27. Affirmative action.
28. Increased formal education.
29. PASS devices.
30. Lawsuits.
31. Incident Command System (ICS).
32. Paradigms.
33. Asbestos.
34. Public education.
35. High-flow low-pressure nozzles.
36. Paramedics.
37. Management By Objectives (MBO).
38. Consolidation.
39. Reduced staffing.
40. National Fire Incident Reporting System (NFIRS).

41. Federal Emergency Management Agency (FEMA).
42. Onscene accountability.
43. Hazardous materials.

Ask students if they can think of other changes to add.

- E. Many of our brothers and sisters in the fire service today were working/volunteering in the job before **any** of the above changes were implemented.

15 min.
Small Group
Activity 4.1

Activity 4.1

Identifying Future Changes

Purpose

To identify the most important changes facing fire departments today and the impacts of those changes.

Directions to Students

1. Divide the class into small groups of four to six members per group. Try to make the groups as diverse as possible: different departments, career/volunteer, cultures, etc.

SM p. 4-11

Flipchart

Alternate form for activity: Complete as a large group discussion through brainstorming, while instructor notes responses on flipchart.

SM p. 4-13

2. Using the Activity Worksheet, have each group take 5 minutes to list changes that most departments will be facing over the next one or two years. Then have students define the specific impacts for changes that cause an increase, decrease, or maintenance in something, e.g., activities.
3. Now have groups reach consensus on a list of three changes that most or all departments represented will be facing.
4. Select a spokesperson to present this "future change" list and expected impacts to the rest of the class during a brief open discussion.

Summary

Summarize the activity by reviewing this list of changes that the fire service will be facing over the next five to ten years. Also discuss the expected impacts of several of these changes. If students have already taken Module 3: Justifying Decisions, point out the connection between these impacts and impact objectives.

Future changes facing the fire service.

OHT 4.7

- ADA;
- downsizing/rightsizing;
- new hazardous materials;
- terrorism;
- environmental concerns;
- age discrimination;
- federal health programs; and
- Incident Management System.

OHT 4.8

- consolidation/regionalization;
- modular fire apparatus;
- department image;
- new mission statements;
- solid-state SCBA;
- reduction in federal and state training support;
- demands for quality improvements; and
- third-dimension simulation.

OHT 4.9

- disaster preparedness;
- increased cultural diversity;
- personal liability issues;
- gangs;
- fewer volunteers;
- new extinguishing agents;
- helmet radio systems;
- reinventing government; and
- transformational leadership.

OHT 4.10

- alternate fuel vehicles;
- GEO positioning systems;
- business approaches;
- privatization; and
- managed health care.

STUDENT ACTIVITY WORKSHEET

Activity 4.1

Identifying Future Changes

Purpose

To identify the most important changes facing fire departments today and the impacts of those changes.

Directions

1. The class will be divided into small groups.
2. Using the Activity Worksheet on the next page, your group should take 5 minutes to list changes that most departments will be facing over the next one or two years. Then define the specific impacts for changes that cause an increase, decrease, or maintenance in something, e.g., activities.
3. Then reach consensus on a list of three changes that most or all departments represented will be facing.
4. Select a spokesperson to present this "future change" list and expected impacts to the rest of the class during a brief open discussion.

STUDENT ACTIVITY WORKSHEET

Activity 4.1 (cont'd)

Worksheet

Changes

Expected Impacts

1.	_____
2.	_____
3.	_____
4.	_____
5.	_____
6.	_____
7.	_____
8.	_____
9.	_____
10.	_____
11.	_____
12.	_____
13.	_____
14.	_____
15.	_____
16.	_____
17.	_____
18.	_____
19.	_____
20.	_____
21.	_____

25 min.
Lecture/
Discussion

II. INTRODUCTION (cont'd) (5 min.)

OHT 4.11

F. Change and the "comfort zone."

1. The one thing certain about change is that it will always be with us.
2. As previously noted, sometimes change is welcomed by those affected; sometimes it is resented and resisted.
3. Change is resisted when people feel their "comfort zones" are being invaded. Comfort zones are defined by our habits: those ways that are customary and comfortable to us. "No change in an individual will truly be permanent until that change becomes the preferred way to behave."

III. OVERCOMING RESISTANCE TO CHANGE (20 min.)

OHT 4.12

"Few organizations can be characterized as having a high level of trust between employees and management, and consequently it is easy for misunderstandings to develop when change is introduced."

Kotter and Schlesinger, 1983

Ask students for the most important word in the above quotation.

Answer: Trust.

OHT 4.13

A. Responding to change.

1. People resist change for one of four reasons.

OHT 4.14

- a. A desire not to lose something of value.
 - b. Misunderstanding the change and its implications.
 - c. Belief that change will not improve the organization.
 - d. A low personal tolerance for change.
2. Research indicates that when change is implemented, people react to the change in one of four ways.
- a. They are willing to accept the change.
 - b. They change to avoid getting into trouble but do not believe in the change; they criticize the program but still perform.
 - c. They say they will change, but never actually accept the change.
 - d. They openly oppose the change and refuse to accept change regardless of its purpose.
- B. As an implementer of change, you may have to confront some of the following barriers to successful change implementation.

Ask students for examples of how **each** barrier below may have slowed or stopped implementation of change in their departments.

OHT 4.15

1. Lack of vision.

- a. When the organization's vision or strategies are unclear, employees may be unsure how changes are to be implemented.
 - b. Clear plans to ensure that information passed down does not become filtered, diffused, and nonspecific.
2. History of poor implementation.
- a. In an organization with a poor history of implementing changes, members do not expect much when new changes are announced.
 - b. Some organizations make great fanfare of rewarding people involved in big projects, but fail to follow through and finish the project or make sure that the desired goals were achieved.
3. Lack of middle-management support.
- a. If you (the middle managers) do not believe in and support the change, it probably won't be successful.
 - b. To avoid this, find a way to ensure that you are involved in the process "up front."
4. Lack of understanding.
- a. Managers must understand and believe in the change if they expect to be successful in its implementation.
 - b. Know the difference between lack of understanding and lack of belief.

OHT 4.16

5. An environment of low risk-taking.

A tendency to overpunish errors or to reward simply the absence of errors promotes mediocrity and low risk-taking.
6. No-consequence management.

People will ignore new directives if there are no rewards for compliance and no negative consequences for failure to comply.
7. Lack of planning for resistance.

All major changes involve resistance; people resist the disruptions that changes cause more than the changes themselves.
 - a. Don't deny or try to quash resistance.
 - b. If resistance is not managed properly it goes "underground" and produces slowdowns, covert resistance, malicious compliance, and even sabotage.
8. Lack of time.

Insufficient time for implementation will cause large maintenance costs after the change is implemented.
9. Lack of union support.

Some organizations fail to solicit union input and support for changes. This can lead to distrust and infighting between labor and management.
10. Lack of synergy.
 - a. Synergy defined: The ability to work together for combined actions or operations.

- b. Forgetting that an organization's various operations are interdependent can lead to initiating changes successfully in one place and encountering resistance in another place.
11. Rhetoric unsupported by results.
- Senior managers say one thing, but their behavior suggests the opposite.

10 min.
Individual
Activity 4.2, Part 1

Activity 4.2, Part 1

Trust-Orientation Profile

Purpose

To gauge the individual student's propensity for trust in relationships. Principles of trust-building and related attitudes hold true in relationships between two people as well as among members of a group.

Directions to Students

1. Refer students to their Student Manuals and have them read the directions for completing the Trust-Orientation Profile instrument.
2. Have students complete the instrument individually, taking approximately 10 minutes to do so.

SM p. 4-15

STUDENT ACTIVITY WORKSHEET

Activity 4.2, Part 1

Trust-Orientation Profile

Purpose

To gauge your propensity for trust in relationships. Principles of trust-building and related attitudes hold true in relationships between two people as well as among members of a group.

Directions

1. Read the directions for completing the Trust-Orientation Profile instrument.
2. After you have read the directions, complete the instrument individually.

STUDENT ACTIVITY WORKSHEET

Activity 4.2, Part 1 (cont'd)

Trust-Orientation Profile

Myron R. Chartier

Directions: For each of the situations described below, you are to distribute five points between two alternatives (A and B). Base your answers on how you actually behave or feel or how you actually perceive the situation, not on how you think you should respond. Although some sets of alternatives might seem to be equally true, assign more points to the alternative that is more representative of your personal experience. For the purpose of this activity, "co-worker" is defined as peers and/or subordinates who work in close proximity with you on a regular basis.

1. If A is completely characteristic of you or your views and B is completely uncharacteristic, write 5 under A and 0 under B.
2. If A is considerably characteristic of you and B is somewhat characteristic, write 4 under A and 1 under B.
3. If A is only slightly more characteristic of you than B, write 3 under A and 2 under B.
4. Each of the above three combinations may be reversed. If you feel B is slightly more characteristic of you than A, write 2 under A and 3 under B, and so on for A=1 and B=4, or A=0 and B=5.

Be sure the numbers you assign to each pair add up to 5.

1. _____(A) My co-workers have all the knowledge and experience they need to do their job effectively.
_____ (B) My co-workers seem to lack the knowledge and/or experience they need to do their jobs effectively.
2. _____(A) I cannot predict how my co-workers will respond in a given situation.
_____ (B) I can predict how my co-workers will respond in a given situation.
3. _____(A) I share my honest thoughts and feelings with my co-workers.
_____ (B) I keep my honest thoughts and feelings to myself.
4. _____(A) I help my co-workers see what their goals and concerns should be.
_____ (B) I let my co-workers know that I understand and appreciate their individual goals and concerns.

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STUDENT ACTIVITY WORKSHEET

5. _____(A) I trust my co-workers; I believe they won't let me down.
_____ (B) I "play it safe" and trust only myself; this way no one else can let me down.
6. _____(A) I am not convinced that each of my co-workers is worthy of my respect.
_____ (B) I respect my co-workers; each of them has a unique contribution to make.
7. _____(A) I encourage my co-workers to comment on their thoughts and feelings.
_____ (B) I would prefer not to hear my co-workers' expressions of their thoughts and feelings.
8. _____(A) I believe in the old saying "do as I say, not as I do."
_____ (B) I say what I mean and mean what I say.
9. _____(A) When I am in a bind, I know I can depend on my co-workers to help me out.
_____ (B) When I am in a bind, I have to rely exclusively on myself.
10. _____(A) My abilities are superior to those of my co-workers.
_____ (B) My co-workers and I are all at the same level of competence.
11. _____(A) I let myself be vulnerable with my co-workers.
_____ (B) I protect myself and try not to be vulnerable with my co-workers.
12. _____(A) The term "commitment" doesn't seem to mean much to my co-workers.
_____ (B) I can depend on my co-workers to follow through on their commitments.
13. _____(A) My co-workers and I cooperate with one another.
_____ (B) My co-workers and I compete with one another.

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STUDENT ACTIVITY WORKSHEET

14. _____(A) My co-workers behave as if they think they are better than I am.
_____ (B) My co-workers treat me as an equal.
15. _____(A) I can count on my co-workers to meet the deadlines and performance standards defined for their work.
_____ (B) I cannot count on my co-workers to meet their deadlines and performance standards.
16. _____(A) When faced with a problem, I figure out the best solution and present my idea to my co-workers.
_____ (B) When faced with a problem, I collaborate with my co-workers to define the problem, explore alternatives, and arrive at a solution.
17. _____(A) My team is warm, accepting, and free of hostility.
_____ (B) There is hostility in my team.
18. _____(A) I cannot rely on my co-workers.
_____ (B) I can rely on my co-workers.
19. _____(A) My co-workers and I are knowledgeable and experienced in our respective skill areas and in our ability to interact with one another.
_____ (B) My co-workers and I lack the knowledge and experience to function as effectively as we might.
20. _____(A) I wonder if my co-workers appreciate my work; I sometimes think they question the value of my contributions.
_____ (B) I know that my co-workers are concerned about my well-being; they "play fairly" and respect my unique contributions.
21. _____(A) My co-workers hold themselves accountable for their work.
_____ (B) My co-workers do not hold themselves accountable for their work.
22. _____(A) I prefer my own solutions to problems.
_____ (B) I am willing to accept solutions proposed by my co-workers.

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STUDENT ACTIVITY WORKSHEET

23. _____(A) No matter what I share with my team members, they are not judgmental.
_____ (B) I am careful about what I share with my team members because they may judge me harshly.
24. _____(A) I assume that my co-workers could use my help in doing their jobs.
_____ (B) I assume that my co-workers are capable of doing their jobs.

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STUDENT ACTIVITY WORKSHEET

STOP

Go no further until your instructor tells you.

20 min.
Lecture/
Discussion

IV. DEVELOPING STRATEGIES TO MANAGE CHANGE (20 min.)

OHT 4.17

- A. Gaining employee confidence and trust.

The most important tool available to the manager in having change accepted within an organization is the level of **trust** established between employees and the administration.

OHT 4.18

- B. To build employee confidence when implementing change, the manager should use one or more of four strategies.

1. Identify who will be most affected by the change and involve them in the decision process.
 - a. Employee involvement builds commitment both for the desired change and for the organization.
 - b. Involvement has the added effect of increasing both employee motivation and the chances for overall acceptance of the desired change.

OHT 4.19

2. Work to build trust between employees and administration.
 - a. Trust is the basis of human relationships.
 - b. Trust does not come naturally; people must want it and work for it.
 - c. Because trust is complex, it cannot be built in a short period of time and have lasting value.
 - d. As trust develops, diverse skills and abilities become recognized and appreciated as strengths.

OHT 4.20

e. People become more frank, expressive, responsive, and spontaneous.

3. Empower employees to increase productivity and "buy in."

a. Employee empowerment means encouraging an employee's commitment to doing the best job he/she can by enabling him/her to "own" the goals and objectives of the organization.

b. Empowerment encourages employee commitment, risk-taking, and innovation.

c. The concepts of empowerment are covered in the course, *Managing in a Changing Environment*.

OHT 4.21

4. Hold employees accountable for their work product.

a. Fire service managers often are held to a high degree of accountability for the resources entrusted to their care.

b. With accountability should come both the responsibility and authority to ensure that the resources are used efficiently and effectively.

c. When accountability is combined with empowerment, the results can pay major benefits for the organization in the areas of innovation, improvement, and employee trust.

15 min.
Individual
Activity 4.2, Part 2

Activity 4.2, Part 2

Trust-Orientation Profile

Purpose

To gauge the individual student's propensity for trust in relationships. Principles of trust-building and related attitudes hold true in relationships between two people as well as among members of a group.

Directions to Students

SM p. 4-23

1. Following completion of the instrument, have students transfer their scores to the Trust-Orientation Profile Scoring Sheet.

SM p. 4-25

2. After completing the Scoring Sheet, students should total the scores in each column, determine their trust orientation (by subtracting their total mistrust score from their total trust score), and plot their respective scores on the scale provided on the Trust-Orientation Profile Interpretation Sheet.

SM p. 4-27

Summary

SM p. 4-29

Summarize by referring students to the Profile Theory Sheet and answering any questions they may have as you review the categories on the overheads. Conclude by reviewing the importance of interpersonal trust-building behaviors to managing change.

SM p. 4-32

IG p. 4-62

STUDENT ACTIVITY WORKSHEET

Activity 4.2, Part 2

Trust-Orientation Profile

Purpose

To gauge your propensity for trust in relationships. Principles of trust-building and related attitudes hold true in relationships between two people as well as among members of a group.

Directions

1. Following completion of the instrument, transfer your score to the Trust-Orientation Profile Scoring Sheet.
2. After completing the Scoring Sheet, total the scores in each column, determine your trust orientation (by subtracting your total mistrust score from your total trust score), and plot your respective scores on the scale provided on the Trust-Orientation Profile Interpretation Sheet.
3. After completing the activity, review the descriptions noted in the Student Manual that contrast the characteristics that build trust with those that build mistrust.

STUDENT ACTIVITY WORKSHEET

Activity 4.2, Part 2		
Trust-Orientation Profile Scoring Sheet		
Characteristic	Trust	Mistrust
Expert versus Inept	1A _____	1B _____
Dependable versus Capricious	2B _____	2A _____
Open versus Closed	3A _____	3B _____
Supportive versus Controlling	4B _____	4A _____
Willing to risk versus Unwilling to risk	5A _____	5B _____
Respectful versus Disrespectful	6B _____	6A _____
Open versus Closed	7A _____	7B _____
Genuine versus Hypocritical	8B _____	8A _____
Cooperative versus Competitive	9A _____	9B _____
Mutual versus Superior	10B _____	10A _____
Willing to risk versus Unwilling to risk	11A _____	11B _____
Genuine versus Hypocritical	12B _____	12A _____
Cooperative versus Competitive	13A _____	13B _____
Mutual versus Superior	14B _____	14A _____
Accountable versus Unaccountable	15A _____	15B _____
Open minded about problems versus Fixated on predetermined solutions	16B _____	16A _____
Accepting and warm versus Rejecting and cold	17A _____	17B _____
Dependable versus Capricious	18B _____	18A _____
Expert versus Inept	19A _____	19B _____
Respectful versus Disrespectful	20B _____	20A _____
Accountable versus Unaccountable	21A _____	21B _____
Open minded about problems versus Fixated on predetermined solutions	22B _____	22A _____
Accepting and warm versus Rejecting and cold	23A _____	23B _____
Supportive versus Controlling	24B _____	24A _____
Totals		

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STUDENT ACTIVITY WORKSHEET

Activity 4.2, Part 2 (cont'd)

Trust-Orientation Profile Interpretation Sheet

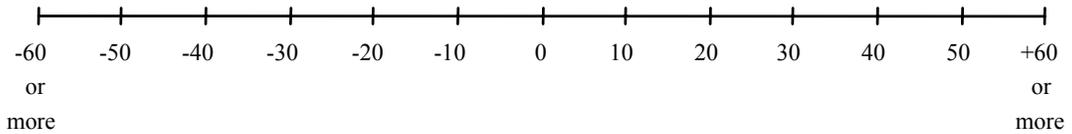
Directions: Transfer your scores from the scoring sheet to the lines that follow in order to compute your trust-orientation score.

Total Trust Score _____

Total Mistrust Score - _____
(Subtract from above.)

Trust Orientation

Plot your trust-orientation score on the continuum that follows.



MISTRUST

TRUST

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STUDENT ACTIVITY WORKSHEET

Activity 4.2, Part 2 (cont'd)

Trust-Orientatation Profile Theory Sheet

The following descriptions contrast the characteristics that build trust to those that build mistrust. Read this interpretation sheet in the context of your personal trust and mistrust scores. You may want to pay particular attention to mistrust items to which you assigned four or five points.

Expert Versus Inept

People trust others who are knowledgeable and experienced in the area in which trust is to be granted (Giffin & Barnes, 1976). People do not trust those who have little or no knowledge in a given area. There is a high trust level in relationships in which people possess and exercise what Giffin and Barnes (1976) label "relevant wisdom." When people are inept with respect to the substantive knowledge, interpersonal qualities, skills, and abilities needed to work collaboratively, they often blame others for their ineffectiveness. When people lack expert technical and relational competencies, the results are poor communication dynamics and a hostile, defensive environment. Such an untrustworthy climate undercuts effective interpersonal relationships.

Dependable Versus Capricious

Probably the most critical characteristic in the creation of trust is dependability. Human beings will trust others more easily and more deeply if they believe they can rely on them. A person's trust will be more widespread if he or she can predict how others will respond, whether the situation is simple or complex. Capricious people cannot be relied on; their behavior is often quite unpredictable, which can lead to deep mistrust. Being dependable is crucial to building trust.

Open Versus Closed

Open people share their innermost thoughts and feelings with others and are receptive to data, ideas, perceptions, and feelings. Closed people keep their thoughts and feelings to themselves and project an attitude of being nonreceptive to others' communications. Every person has a right not to share certain thoughts and aspects of his or her life. However, effective interpersonal relationships are impossible when information is deliberately kept from others or is ignored. Shared information contributes to trust between people. In order to create a climate of mutual trust, people must be appropriately open with one another.

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STUDENT ACTIVITY WORKSHEET

Supportive Versus Controlling

The supportive person seeks to be encouraging; reassuring; and understanding of others, their agendas, and their goals. The controlling person tries to bind others to his or her desires and wishes, operating on the assumption that others are inadequate and need to be dominated by someone who "has it together." Supportiveness creates a climate of trust, whereas control engenders a climate of resistance and defensiveness. It is easy to trust supportive persons. A supportive attitude among people contributes to a trustworthy climate in which effective interpersonal relationships are possible.

Willing to Risk Versus Unwilling to Risk

To trust another person is risky; a decision to trust can lead to either good or bad consequences. To entrust one's well-being to another person makes a person vulnerable. Risking is the process of deciding to accept potentially adverse results that may come from trusting another. The greater the risk involved, the more one is required to trust another. Taking such risks with others creates a trusting climate because it communicates trust. Playing it safe communicates one's unwillingness to trust and fails to generate trust among people.

Respectful Versus Disrespectful

Situations in which people are convinced that others respect them for who they are and for what they have to contribute are conducive to trust. Knowing that others are concerned about one's well-being goes a long way in helping a person to believe that the risk of trust is worthwhile. In situations in which verbal or even physical abuse takes place, fear overwhelms the bonds of trust and impedes effective interpersonal relationships. Respectful people look out for one another's welfare and thereby create a climate of trust.

Genuine Versus Hypocritical

A genuine person is a person of integrity. The genuine person's thoughts, feelings, and actions are consistent. It is difficult to trust someone whose words and conduct are inconsistent. If one can never be certain about the meaning of another's words, true intentions, or actions, he or she experiences the other person as hypocritical. Genuine people are honest. Trusting them comes easily because they say what they mean; they clarify their intentions; and they follow through on their promises. Interpersonal relationships are enhanced when people are genuine.

Cooperative Versus Competitive

A cooperative attitude builds trust; when people experience a spirit of cooperation, they share relevant information openly, clearly, and honestly. In a competitive atmosphere, communication is either lacking or misleading. Whereas cooperation requires teamwork to achieve common goals, competition stresses personal objectives at the expense of common objectives. When a competitive spirit pervades the climate, trust may be difficult to achieve; fear and defensiveness are the likely result. On the other hand, the give-and-take of cooperation builds a fellowship and trust among people.

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STUDENT ACTIVITY WORKSHEET

Mutual Versus Superior

When people communicate that they feel superior to others, a climate conducive to mistrust and defensiveness is ensured. When people sense a spirit of mutuality, an environment conducive to openness and trustworthiness results. Mutuality makes it possible for people to resolve issues through problem-solving. There is a desire for two-way communication, power is shared, role status is minimized, and appreciation of individuals is maximized. Each person's self-worth is valued. A spirit of mutuality generates a trustworthy climate in which each person's abilities and interests are valued and nurtured.

Accountable Versus Unaccountable

Trust is enhanced when people are willing to be accountable to one another. Eventually, any interpersonal relationship is based on the assumption of personal responsibilities and accountability. Without accountability, all efforts become random, haphazard, even chaotic. This result leads to an undependable climate in which people do not know whether or not they can count on others to do what they have said they would do. Accountable relationships create and maintain a trustworthy climate.

Problem Centered Versus Solution Minded

People with a problem-centered attitude work collaboratively to define problems, explore alternatives, and arrive at solutions. They have no preplanned solutions and encourage others to set goals, make decisions, and evaluate progress in light of the nature of the problem and the various alternatives open to them. Solution-minded people assume that recognizing a problem is equivalent to understanding it. They are quick to arrive at solutions and fail to explore the nature of the problem. They often have a strong tendency to impose their answers on others. Adopting an immediate-solution approach tends to generate negative feelings, a divisive climate, and an atmosphere of endless argumentation and fruitless debate.

Accepting and Warm Versus Rejecting and Cold

An accepting, warm attitude is a major contributor to trust building. On the other hand, a rejecting, cold attitude creates feelings of rejection, low self-esteem, and hostility, which lead to mistrust and suspicion. Accepting attitudes lead to feelings of psychological safety, which lead people to believe that no matter what they share, others will respond in an accepting, nonjudgmental manner. Warmth in relationships is essential to creating a trustworthy climate for effective teamwork. When an attitude of warmth is communicated, people feel prized for who they are and what they have to contribute.

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STUDENT ACTIVITY WORKSHEET

Conclusion

The preceding principles of trust-building and mistrust-building attitudes hold true in relationships between two people as well as among members of a group. If you decide to foster more trust-building attitudes, you can take certain actions. The following interpersonal behaviors can help to build trust:

- initiating communication or action with others;
- establishing eye contact;
- communicating clearly;
- giving and receiving feedback;
- listening empathically;
- expressing personal feelings;
- accepting the feelings of others;
- using "I" messages;
- affirming the self-images of others;
- being present and involved;
- acting consistently; and
- appreciating the trust of others.

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25 min.
Lecture/
Discussion

V. THE MANAGER AS CHANGE AGENT (5 min.)

Managing the change process.

OHT 4.22

- A. "The difference between a successful change or innovation and an unsuccessful one lies in the capabilities of management personnel within a particular fire department."
Joseph N. Baker
Managing Fire Services
- B. The chief fire executive is responsible for motivating top management to accept the desired change.
 - 1. Top management is responsible for influencing change by providing an environment in which mid-level managers can:
 - a. Achieve greater influence (upward and downward).
 - b. Become key implementers of the desired change.
 - c. Become key communicators in the change process.
 - 2. In turn, middle managers are responsible for increasing opportunities for nonmanagement employees to participate in the change process. The middle manager should
 - a. Advise employees of the details of the change.
 - b. Discuss the reasons for the change and its benefits.
 - c. Discuss expected changes in existing work patterns.

OHT 4.23

- d. Discuss advantages to be gained throughout the department.

**VI. MONITORING AND EVALUATING CHANGE
(20 min.)**

- A. An integral part in implementing change is evaluating the results. Proper reporting and evaluating procedures should be established to ensure that the intended results of the change are achieved.
- B. Proper monitoring and evaluating requires the collection of good data.

Point out that indepth information on the need for accurate data is contained in Module 3: Justifying Decisions.

- 1. Objective data (measurable) versus subjective data (personal opinion).
- 2. Qualitative data (type or kind) versus quantitative data (number).

OHT 4.24

- C. When evaluating change, managers should understand that most people go through four predictable stages in response to change: shock, retreat, acknowledgment, and adaptation and change. Understanding the transition process will help managers evaluate and accomplish change (e.g., closing of fire stations, layoffs, new employees, or new fire chief).

OHT 4.25

- 1. Stage 1: Shock.
 - a. Indications.
 - People view changes as a threat.

- Productivity is low; people cannot rationalize the change and have trouble focusing on possible improvements.

b. Ways to manage.

- Help employees look for common ground.

- Give regular information and visible support.

- Provide safety nets through clear statements of work expectations, rewards, and supports.

- Treat "psychological shock" with "warm blankets and rest" (time to recover and emotional support).

OHT 4.26

2. Stage 2: Retreat.

a. Indications.

- People defend their old ways and back away.

- There is a lot of anger or anxiety and refusal to let go of the past.

b. Ways to manage.

- Help employees identify what they're "holding on" to and how they can maintain comfort in the new situation.

- Identify areas of stability; things that are not changing.

- Encourage a risk-taking environment with rewards, support, resources, and clear expectations (relate to accountability).

OHT 4.27

3. Stage 3: Acknowledgment.
 - a. Indications.
 - There is a sense of grief and sadness over the loss.
 - People begin to let go as they see the value of what is coming, and look for ways to make the changes work.
 - b. Ways to manage.
 - Involve people in the planning and decisionmaking process.
 - Encourage risk-taking by pointing out ways in which the organization will provide support.
 - Emphasize that everyone is learning from the process.

OHT 4.28

4. Stage 4: Adaptation and change.
 - a. Indications.
 - People are ready to establish new routines and to help others succeed.
 - Risk taking relative to changing work methods, products, or adaptations is fully used.
 - b. Ways to manage.
 - Implement the plan.
 - Encourage and support risk-taking, using strategies developed during Stage 3.

- Ensure proper monitoring so information travels in all directions: upward, downward, and horizontally.
- Make corrections in the new change as required and communicate them accordingly.

40 min.
Large Group
Activity 4.3

Activity 4.3

Managing Change

Purpose

To use all of the "tools" students have gained from the material in practice on assigned scenarios.

IG p. 4-79

When time is short, entire class may participate in the activity together, brainstorming answers while Instructor walks through the Worksheets. Suggested answers are provided for scenarios to facilitate either approach.

Directions to Students

SM p. 4-33

1. Two scenarios are provided; one primarily for career-oriented departments and one for volunteers. The instructor should select the scenario that best fits the student makeup of the class.
2. Divide the class into two large groups, with one group assigned to each scenario.
3. Have students read assigned scenarios individually; refer them to the Activity Worksheet and ask them to complete it **briefly**.
4. Then have students work together in assigned groups to reach **consensus** on the aspects of managing change as noted on the Worksheet.
5. Have each group assign one member to serve as secretary to prepare a group worksheet, and one member to present the group's findings to the class.
6. Have each group prepare an overview of the Worksheet on a large flipchart for easy viewing by all students.

Flipchart

IG p. 4-79

7. Following completion of both group presentations, review suggested solutions to the scenarios as noted in the Instructor Guide.
8. Suggested responses are provided in italics on the following Student Activity Worksheets.

STUDENT ACTIVITY WORKSHEET

Activity 4.3

Managing Change

Purpose

To use all of the "tools" you have gained from the material in practice on assigned scenarios.

Directions

1. The class will be divided into two large groups.
2. Read your assigned scenario(s) and then complete the Worksheet individually.
3. After completing the Worksheet, work in your assigned group and attempt to reach consensus on items II, III, and IV of the Worksheet.
4. Select one member of your group to take notes during group discussion, and another member to present the findings of your group to the rest of the class.

STUDENT ACTIVITY WORKSHEET

Activity 4.3 (cont'd)

Scenario 1

You are the new fire chief of Westport, a growing suburban community with light industry and a mixture of old and new dwellings. You have been hired by the Fire and Police Commission. You come from a city in another state where you established an outstanding record as a modern and innovative deputy chief. Your previous chief and city manager wrote glowing recommendation letters praising your past record of accomplishments. You have 20 years of fire command experience. You have provided innovations in rescue operations, prefire planning, and fireground tactical operations which included the design of new suppression equipment. You also helped the city council rewrite the city fire code. You have long been regarded by your peers as an example of a modern fire officer.

While Westport is a growing and forward-thinking city, its fire service has remained in the dark ages, primarily because of the lackadaisical leadership of the previous chief who finally retired. The old chief let the department deteriorate for the past ten years. He/She failed to purchase needed new equipment. He/She had no training procedures beyond basic hose and ladders for training his/her force in fireground tactics. He/She was suspicious of any firefighter who sought a college education. Accordingly, there is a tremendous morale problem in the department. The old firefighters have made a career out of stomping out new ideas. However, there are a few good young officers who could provide some leadership and energy to modernize the department.

Your task (as a group) is to create a change management plan for developing a supervisory-level training program for the fire department. Consider all levels, including entry, in-service, midmanagement, and administrative. In 20 minutes be prepared to summarize your problem, recommend a solution, and give your reasoning.

- I. Which of the following "barriers to change" appear to be present in your assigned scenario? Check appropriate choices.

Suggested responses (in italics):

- *lack of vision*
- *history of poor implementation*
- *lack of support from middle management*
- *lack of understanding*
- *low risk-taking environment*
- *no-consequence management*
- *lack of clear communication*
- *lack of planning for resistance*
- *poor management of resistance*
- *lack of time*
- *poor followthrough*
- *lack of union support*
- *lack of synergy*
- *rhetoric unsupported by results*

STUDENT ACTIVITY WORKSHEET

II. Considering the above-noted barriers, which of the following change strategies would be most appropriate to employ for your assigned scenario? Check all that apply and make notes as appropriate.

Suggested responses (in italics):

- *Work to build trust between employees and administration.* _____

- *Identify who will be most affected by the change and involve them in the decision process.* _____

- Empower employees to increase productivity and "buy in." _____

- Hold employees accountable for their work product. _____

III. Consider the four stages of response (as noted below) that most people go through when faced with impending change. In the spaces provided, check one or two indicators for each stage and note tools to use to help manage the change process at each stage.

1. Stage 1: Shock.

a. Indicators:

Suggested responses:

- *People view change as a threat.*
- *Low productivity; people cannot rationalize change.*

b. Management tools:

Suggested responses:

- *Help employees look for common ground.*
- *Give regular information and visible support.*
- *Provide clear statements of work expectations.*
- *Treat for psychological shock (time and emotional support).*

2. Stage 2: Retreat.

a. Indicators:

Suggested responses:

- *People defend their old ways.*
- *There is anger, anxiety, and refusal to let go of the past.*

STUDENT ACTIVITY WORKSHEET

b. Management tools:

Suggested responses:

- *Help employees to identify comfort zones.*
- *Identify areas of stability; what's not changing.*
- *Encourage risk taking with rewards, resources, and support.*

3. Stage 3: Acknowledgment.

a. Indicators:

Suggested responses:

- *A sense of grief and a sadness over the loss.*
- *People begin to let go as they see the value of what is coming.*

b. Management tools:

Suggested responses:

- *Involve people in the planning and decisionmaking process.*
- *Encourage risk taking through showing organizational support.*
- *Emphasize that everyone is learning from the process.*

4. Stage 4: Adaptation and change.

a. Indicators:

Suggested responses:

- *People are ready to establish new routines and help each other succeed.*
- *Risk taking relative to changing work patterns is fully used.*

b. Management tools:

Suggested responses:

- *Implement the plan.*
- *Encourage and support risk taking.*
- *Ensure proper monitoring so information travels in all directions.*
- *Make corrections as needed and communicate them accordingly.*

IV. Briefly describe the monitoring and evaluating process that you would establish to ensure that the desired results of the change were being achieved.

Suggested responses:

- *Have task group develop goals and measurable objectives for change plan.*
- *Set up regular meetings with Task Group Leader in order to keep updated on progress.*
- *Ensure officer performance evaluation instruments are updated to reflect expected results.*

STUDENT ACTIVITY WORKSHEET

Activity 4.3 (cont'd)

Scenario 2

The decision to purchase a positive-pressure ventilation gas-powered fan and implement PPV was made shortly after Chief Barnes of the Barnestown Volunteer Fire Department returned from a seminar on PPV use on the fireground. The Chief planned to use money that had been earmarked for the annual department picnic and party for the purchase. In the past, the annual picnic and party was the major social event of the year for members of the department; almost all attended, along with their families.

The active volunteer firefighters cannot see the value of PPV and are angry that the annual picnic and party is being deferred in favor of the Chief's latest gadget. A number of volunteers are threatening to boycott the department unless the Chief changes his mind. Chief Barnes has assigned the responsibility for acquisition of the PPV fan and the development of a training program for its use to Training Chief Fred Williams and the four other members of his Training Committee. The Chief has stressed the importance to all committee members of accepting this modern and innovative tactical tool.

Your task (as a group) is to analyze the situation and resistance to change and develop strategies for successfully implementing the change. In 20 minutes be prepared to summarize your problem, recommend a solution, and give your reasoning.

- I. Which of the following "barriers to change" appear to be present in your assigned scenario? Check appropriate choices.

Suggested responses (in italics):

- *lack of vision*
- *history of poor implementation*
- *lack of support from middle management*
- *lack of understanding*
- *low risk-taking environment*
- *no-consequence management*
- *lack of clear communication*
- *lack of planning for resistance*
- *poor management of resistance*
- *lack of time*
- *poor followthrough*
- *lack of union support*
- *lack of synergy*
- *rhetoric unsupported by results*

STUDENT ACTIVITY WORKSHEET

II. Considering the above-noted barriers, which of the following change strategies would be most appropriate to employ for your assigned scenario? Check all that apply and make notes as appropriate.

Suggested responses (in italics):

- *Work to build trust between employees and administration.*
- *Identify who will be most affected by the change and involve them in the decision process.*
- *Empower employees to increase productivity and "buy in."*
- *Hold employees accountable for their work product.*

III. Consider the four stages of response (as noted below) that most people go through when faced with impending change. In the spaces provided, check one or two indicators for each stage and note tools to use to help manage the change process at each stage.

1. Stage 1: Shock.

a. Indicators:

Suggested responses:

- *People view change as a threat.*
- *Low productivity; people cannot rationalize change.*

b. Management tools:

Suggested responses:

- *Help employees look for common ground.*
- *Give regular information and visible support.*
- *Provide clear statements of work expectations.*
- *Treat for physiological shock (time and emotional support).*

2. Stage 2: Retreat.

a. Indicators:

Suggested responses:

- *People defend their old ways.*
- *There is anger, anxiety, and refusal to let go of the past.*

b. Management tools:

Suggested responses:

- *Help employees to identify comfort zones.*
- *Identify areas of stability; what's not changing.*
- *Encourage risk taking with rewards, resources, and support.*

STUDENT ACTIVITY WORKSHEET

3. Stage 3: Acknowledgment.

a. Indicators:

Suggested responses:

- *A sense of grief and a sadness over the loss.*
- *People begin to let go as they see the value of what is coming.*

b. Management tools:

Suggested responses:

- *Involve people in the planning and decisionmaking process.*
- *Encourage risk taking through showing organizational support.*
- *Emphasize that everyone is learning from the process.*

4. Stage 4: Adaptation and change.

a. Indicators:

Suggested responses:

- *People are ready to establish new routines and help each other succeed.*
- *Risk taking relative to changing work patterns is fully used.*

b. Management tools:

Suggested responses:

- *Implement the plan.*
- *Encourage and support risk taking.*
- *Ensure proper monitoring so information travels in all directions.*
- *Make corrections as needed and communicate them accordingly.*

IV. Briefly describe the monitoring and evaluating process that you would establish to ensure that the desired results of the change were being achieved.

Suggested responses:

- *Have task group develop goals and measurable objectives for change plan.*
- *Set up regular meetings with Task Group Leader in order to keep updated on progress.*
- *Ensure officer performance evaluation instruments are updated to reflect expected results.*

5 min.
Lecture

OHT 4.29

VII. SUMMARY (5 min.)

- A. This module has focused on having students understand the inherent resistance of people to change, and on developing strategies for implementing change within the fire service environment.
- B. By understanding how people react to change and the barriers to implementing change, the fire service manager can develop effective strategies for implementing change.
- C. Gaining employee confidence and trust are the keys to the successful management of change.
- D. The fire service mid-level manager plays a major role in the introduction, communication, and management of change.
- E. Proper monitoring and evaluating techniques are crucial to the successful implementation of change.

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Excellent pamphlet on the transformation of change in organizations; provides a risk-taking model and reviews the four stages of transition in responding to change.

Kotter, John P., and Leonard A. Schlesinger. "Choosing Strategies for Change." *Perspective on Behavior in Organizations*. New York: McGraw-Hill Book Company, 1983.

Reading from graduate-level text discussing the difficulty in initiating and carrying out organizational change; covers resistance to change in depth and provides implications for managers to consider when initiating change.

"Managing Change: Implementation Skills." *Info-Line*, Alexandria, VA: American Society for Training and Development, October 1989.

This well-written pamphlet describes change as a process that must be orchestrated at each level of the organization, describes the characteristics of effective change agents, and reviews barriers to the change process.

Woodall, L. Bryant. "Managing Change in the Fire Department." Raleigh, NC: Executive Fire Officer Program; Executive Leadership, February 1992.

Executive Fire Officer Applied Research paper from the National Fire Academy's Executive Fire Officer Program outlines some of the problems and concerns faced by the Raleigh, NC, Fire Department when implementing organizational changes.

MODULE 5: COURSE CONCLUSION

OBJECTIVES

The students will:

- 1. List major points learned during the training course.*
 - 2. Pass the 20-question final examination.*
-

COURSE CONCLUSION

POINTS FOR THE INSTRUCTOR

The purpose of this module is to excite the students about what they have learned during the course and encourage them to use the information when they return to their jobs. While the final examination is given during this time, do not allow it to become a nerve-wracking experience for the students. Provide a comprehensive review of the course materials, especially if students have taken the modules at various times.

METHODOLOGY

This module uses lecture and a test.

(Total Time: 1 hr.)

60 min.	Lecture	
	Objectives	IG 5-3
	Moving Into the Future	IG 5-3
	Final Examination	IG 5-5
	Graduation	IG 5-5

AUDIOVISUAL

OHTs 5.1 to 5.7

HANDOUT

Handout 5-1: Final Examination

OHT 5.1
60 min.
Lecture

I. OBJECTIVES (5 min.)

OHT 5.2

The students will:

- A. List major points learned during the training course.
- B. Pass the 20-question final examination.

OHT 5.3

II. MOVING INTO THE FUTURE (10 min.)

SM p. 5-3

Ask students to take notes in their Student Manual as you review and discuss each of the four course goals (the terminal objectives for Modules 1 through 4). Ask students to discuss the most important points they remember about each of the modules. Then they should write specifics of what they plan to accomplish when they return to their jobs.

OHT 5.4

- A. Module 1: Redefining the Present.

Terminal Objective: The students will be able to employ creative approaches to identify problems having an impact on organizational effectiveness.

OHT 5.5

- B. Module 2: Finding Solutions in the Quality Environment.

Terminal Objective: Given modern organizational problems, the students will be able to apply creative group problem-solving methods and describe the importance of continuous improvement within the fire service.

OHT 5.6

- C. Module 3: Justifying Decisions.

Terminal Objective: The students will be able to quantify problems and solutions, and use the information to justify a recommendation.

OHT 5.7

- D. Module 4: Managing Change in the Fire Service Environment.

Terminal Objective: The students will be able to explain why people resist change and develop strategies for implementing change within the fire service environment.

Handout 5-1

III. FINAL EXAMINATION (30 min.)

- A. Taking the exam.
 - 1. We will have a 20-question multiple choice test.
 - 2. They will be graded as you turn in your answer sheet so we will have time to review the answers and discuss any points that need clarification.
 - 3. Hand in your copy of the exam with your answer sheet.
- B. Reviewing the answers.

Go over the answer to each question, clarifying any points about which students have concerns.

IV. GRADUATION (15 min.)

Congratulate students on taking the course and encourage them to become agents of change within their own organizations. Point out the importance of leading and being able to shape the future, no matter what level of the department they currently occupy.

Award Certificates.